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Exploring Pre- and Post-Admission Characteristics of Retained First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges

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EXPLORING PRE- AND POST-ADMISSION CHARACTERISTICS OF RETAINED
FIRST-YEAR STUDENTS ENROLLED IN NON-PROXIMAL DISTANCE
LEARNING PROGRAMS WITHIN PUBLIC, 2-YEAR COLLEGES

A Dissertation
Presented to
the Graduate School of
Clemson University

In Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy
Educational Leadership

by
Laurie Giles Hillstock
August 2009

Accepted by:
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ABSTRACT

The primary purpose of this study was to explore pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. Pre-admission characteristics included student attributes, such as age, sex, race/ethnicity, GPA, and technology experience. Post-admission characteristics included lifestyle variables (i.e., employment status, family obligations, and finances) and student perceptions regarding institutional variables (i.e., academic integration, commitment and technology access). The sample for this study consisted of 197 first-year students enrolled in non-proximal distance learning programs from among five, public, 2-year colleges in Virginia during the 2008-09 academic year.

A quantitative data collection method was used in this exploratory study. Data analysis revealed three major conclusions: (1) the majority of subjects were non-traditional-aged, white females, with a high GPA. They also had technology experience; (2) the majority of subjects were employed on a full-time basis, acknowledged that employment while attending college was a major source of funding, reported having dependent children under the age of 18 living in the household, and experienced problems related to job, family and personal finances while enrolled; (3) the majority of subjects had a high school and college GPA of above 3.0, believed the institutional academic advising system was more than adequate, concluded that it was important to graduate from their current institution, believed it was important to graduate from any

institution, and had access to technology from college or home. However, almost half reported having limited access to technology from work.

Implications are provided for 2-year college level administrators seeking to establish and/or maintain non-proximal distance learning programs. Recommendations for future research are also provided.

DEDICATION

This is dedicated to Willie and Matthew, for their love, support, encouragement, and patience.

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CHAPTER ONE

NATURE OF THE PROBLEM

Introduction

Distance learning has significantly changed higher education by widening access to education for individuals who are unable to participate in the traditional classroom environment (Allen & Seaman, 2007; Andrews, 2004; Benson, Johnson, Taylor, Treat, Shinkareva & Duncan, 2005; Moore & Anderson, 2003). Through the use of distance learning technologies, students who are separated by physical location have the ability to communicate with their instructor and classmates (Holmberg, 1989; Moore & Anderson, 2003). Communication through distance learning technologies gives students more opportunity to collaborate (Moore & Anderson, 2003; Rovai, 2000; Stumpf, McCrimon, & Davis, 2005; Swan, 2001) and provides for increased flexibility with student lifestyles (Rovai & Baker, 2005; Rowntree, 1992; Swan, 2001).

The National Center for Education Statistics (NCES, 2007) reported that enrollment in credit bearing distance learning courses grew by 47% from the 1997-98 to the 2000-01 academic year. Over 80% of this growth was at the undergraduate level, with 90% of public, 2-year colleges offering courses at a distance (Waits & Lewis, 2003). Furthermore, 34% of institutions offering distance learning courses in 2000-01 also offered full degree and certificate programs that could be earned from a distance (Waits & Lewis, 2003). In addition, a study conducted through the Sloan C Consortium reported a 9.7% growth rate for online enrollments in 2006 alone. Growth rates exceeded the 1.5%

overall increase of the traditional, in-seat student population during that same period (Allen & Seaman, 2007).

Although there was tremendous growth in distance learning enrollments, student retention remained a major issue for many institutions. Most specifically, retention rates in distance learning courses are significantly lower than in face-to-face courses (Brady, 2001; Carr, 2000; Dietz-Uhler, Fisher, & Han, 2008; Simpson, 2004).

Statement of the Problem

The American Association of Community Colleges (AACC) noted several differences between traditional 2-year college students and 4-year students. For instance, 47% of 2-year college students received some form of financial aid as compared to the 69% of 4-year college students. In addition, in contrast to 4-year college students, 2-year college students were older, enrolled on a part-time basis, and worked full or part-time jobs (AACC, 2008).

Past research revealed the impact of distance learning on 2-year colleges, helping to address the specific needs of the diverse student population (Benson et al., 2005; Bower & Hardy, 2004; Hale, 2007). During the 2000-01 academic year, approximately 1.5 million students were enrolled in distance learning courses at 2-year colleges (Waits & Lewis, 2003). In addition, by 2003 over 500 distance learning degree programs were offered by public, 2-year institutions (Waits & Lewis, 2003).

According to Seeman (2001), distance learners were more self confident and had the ability to work independently as compared to traditional students. Distance Learners were also directly impacted by time, money, and external commitments (Diaz &

Bontenbal, 2001; Dubois, 1996). Although these differences existed, challenges related to student retention were common among both distance learners and traditional students.

Historically, retention rates were lower among first-year traditional students attending 2-year institutions than those enrolled at 4-year institutions (Hoachlander, Sikora, & Horn, 2003; Tinto, 1993). Furthermore, student dropout rates were more than 10% higher in distance-learning courses as compared to traditional courses (Carr, 2000; Liu, Gomez, Khan, & Yen, 2007).

Previous research revealed a number of reasons for retention issues among first-year students, including demographics, student attitudes, motivation, employment, finances, family obligations, academic integration, commitment and perceived difficulty of content (Bean & Metzner, 1985; Bennett, 2003; Khan, 2005; Pascarella & Terenzini, 2005; Tinto, 1993), but of this much research was focused on the traditional (on-campus) college student attending a 4-year institution. Literature identifying causes of retention challenges for first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges was limited (Liu et al., 2007). Consequently, this study investigates the traits and behaviors of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment.

Purpose

The primary purpose of this study was to explore pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. Pre-admission characteristics included student attributes, such as age, sex, race/ethnicity, GPA, and technology experience. Post-admission characteristics included lifestyle variables (i.e., employment status, family obligations, and finances) and student perceptions regarding institutional variables (i.e., academic integration, commitment, and technology access).

Research Questions

The following research questions guided the investigation:

1. What are the pre-admission student attributes of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?
2. What are the post-admission lifestyle variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?
3. What are the post-admission student perceptions regarding institutional variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?

Definition of Terms

This section includes a listing of key terms used in this study. The list also includes several terms utilized in general discussion about distance learning operations. As appropriate, further discussion of terms is provided in the review of literature.

Distance Learning is defined as the teaching-learning environment where the students and teacher are geographically separated (Keegan, 1986).

Distance Learning Program is defined as any academic degree program that can be earned from a distance through the use of various distance learning technologies (Waits & Lewis, 2004). For the purposes of this study, the term *non-proximal distance learning program* will be used.

Distance Learning Technology is defined as formats used to deliver distance learning courses, such as the Internet, prerecorded video, audio/phone conferencing, video conferencing, and CD-ROM (Waits & Lewis, 2003).

Family Obligations is associated with the number of children in the family (Bean & Metzner, 1985; Hernandex, 2006; Ives, 2006; Sydow & Sandel, 1998).

First-Year Student is defined as a student who has completed the first semester and less than 25% of undergraduate work within a specific degree program (National Center for Education Statistics, 2007).

Grade Point Average (GPA) is a measure of a student's academic achievement (Bean & Metzner, 1985; Tinto, 1975). It is calculated by dividing the total number of grade points received by the total number attempted. For the purposes of this study, the GPA is on a 4-point scale with 4 = A to 0 = F.

Institutional Variables include academic integration, commitment, and technology access (Bean & Metzner, 1985; Rogers, 1995; Tinto, 1975).

Lifestyle Variables include employment status, family obligations, and finances (Bean & Metzner, 1985).

Non-Proximal Distance Learning refers to a distance learning program that is completed entirely through the use of distance learning technologies.

Non-Traditional Aged Student is defined as a student older than 24 years of age (Bean & Metzner, 1985).

Perception deals with the student's view of learning experiences, including "how well" or "how much" was learned (Picciano, 2002).

Public 2-Year College is defined as a type of college where the associate's degree is the highest degree awarded (The Carnegie Foundation for the Advancement of Teaching, 2007). For the purposes of this study, the terms *2-year college* and *community college* will be used interchangeably.

Retention is a measure of the number of students who persist in their studies from fall to spring semester of the first-year (Fike & Fike, 2008).

Student Attributes refer to age, sex, race/ethnicity, GPA, and technology experience (Bean & Metzner, 1985; Rogers, 1995; Tinto, 1975).

Traditional Aged Student is defined as a student between the ages of 18 and 24 (Adelman, 2005).

Transfer Student is a “student entering the institution for the first time, but known to have previously attended a postsecondary institution at the same level,” (National Center for Education Statistics, 2007, Glossary Section, T).

Limitations

Fraenkel and Wallen (2003) defined a research limitation as a part of the study, known to the researcher, which may impact the generalizability of the results. The researcher does not have control over limitations (Fraenkel & Wallen, 2003). The limitations in this study are as follows:

1. The researcher used a cross-sectional research design. With this type of design, data are collected at one point in time. Use of this kind of research design may cause both volunteer and recall bias. In addition, the researcher’s ability to draw causal relationships is limited (Mertens & McLaughlin, 2003).
2. This study is based solely on survey data, which raises the risk of single-method error variance. As noted by Podsakoff and Organ (2003), if all measures are obtained by a single method, high convergent and discriminate validity do not indicate that one’s measures are close to their true scores.
3. The researcher used a Web-based data collection method. Consequently, this research may be constrained by low response rates, access to technology, and problems with technology (Daley et al., 2003; DeBell & Chapman, 2006; Dillman, 2000; Granello & Wheaton, 2004).

4. A number of variables (i.e., age, sex, race, GPA, etc...) are self-reported.

This could result in values that are inaccurate due to poor recall or bias.

(Bhandari & Wagner, 2006).

5. This study is limited to the variables identified within the research questions. There may be other characteristics of retained first-year students that were not examined or revealed during this study.

Assumptions and Delimitations of the Study

A number of factors may place constraints on the degree of confidence that can be placed in the findings of this study. These are related to two basic assumptions underlying the study: (a) participants will honestly respond to the items on the survey, and (b) the survey instrument is an accurate measure of the variables affecting student persistence to second semester and student retention.

The study was delimited to five colleges within the Virginia Community College System (VCCS). As such, findings may not be relevant or generalizable to retained, first-year students enrolled in non-proximal distance learning programs within other 2-year colleges.

Summary

This chapter introduced the significance of distance learning within postsecondary institutions and the problem of retaining students enrolled in distance learning courses. There is a limitation in the literature regarding causes of retention challenges for first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges. Furthermore, there is a limited amount of literature detailing the traits and behaviors of this specific student population. Consequently, this study will explore the pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment.

This study is unique in that it explores the characteristics of retained distance learning students enrolled in non-proximal distance learning programs, based on the perceptions of currently enrolled, first-year students. As such, this study will add to the body of knowledge of college student retention, distance learning, and 2-year colleges. The identification of pre- and post-admission characteristics of retained students can give administrators in higher education the information required to develop resources and strategies to address the needs of first-year distance learning students and thus helping to improve upon student retention rates and student success. The next chapter provides for a review of the literature and conceptual framework associated with the study.

CHAPTER TWO

REVIEW OF THE LITERATURE

Introduction

This study explores pre- and post-admission characteristics of retained, first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. Chapter two presents a review of the literature and research relevant to the subject areas. The literature review is divided into the following sections: (a) profile of the 2-year college student; (b) distance learning; and (c) student retention.

The conceptual framework for this study is based on Tinto's Attrition Model (Tinto, 1975), Bean and Metzner Nontraditional Student Attrition Model (Bean & Metzner, 1985), and Rogers' Model of the Diffusion of Innovation (Rogers, 1995). An explanation of this framework is offered as a part of the literature review.

Profile of the 2-Year College Student

According to the American Association of Community Colleges (2008), there were over 1,100 two-year colleges in the U.S. In 1991-92 academic year, more than 500,000 associate degrees were awarded annually. By 2000-01 academic year, more than 11 million students were enrolled in two-year colleges. Since the 2005-06 academic year, students at over 40% of the public 2-year colleges have had the opportunity to enroll in a non-proximal distance learning program (AACC, 2008).

There is great diversity among 2-year college students in the form of student attributes and lifestyle variables (Adelman, 2005; Cohen & Brawer, 2003; Liu, Gomez, Khan, & Yen, 2007). During the 2007-08 academic year, approximately 60% of the

student population was female, and 59% of students were enrolled on a part-time basis (AACC, 2008). In addition, the average age of students was 29 years old, with 46% over 25 years of age (AACC, 2008).

During the 2007-08 academic year, minority students comprised 35% of the 2-year college student population, with 39% of the student population identified as a first generation student (AACC, 2008). In addition, 17% of the student population reported as a single parent (AACC, 2008). The majority of 2-year college students were employed, with 50% of full-time students employed on a part-time basis and 33% of part-time students employed on a part-time basis (AACC, 2008). Over 40% of the 2-year college student population received some form of financial aid, including federal grants (< 50%), federal loans (11%), state aid (12%) and campus-based aid (9%) (AACC, 2008).

Distance Learning

For the purposes of this study, the term *distance learning* focuses specifically on students who are enrolled in programs designed to be completed entirely at a distance from the main, public, 2-year college campus. This section of the literature review is divided into three parts: (a) further defining distance learning; (b) the distance learning student; and (c) the role of distance learning in the 2-year college.

Further Defining Distance Learning

Instructional technology in the classroom has progressed over the years and has helped to advance the teaching/learning environment to a distance learning classroom (Johnson, 1999). Distance learning, also termed distance education, is defined as a teaching-learning environment in which the learner and teacher are separated by time

and/or space (Waits & Lewis, 2003). Moore (1989) placed distance learning into three categories; including (a) interaction between the learner and the instructor, (b) interaction among learners, and (c) interaction between learners.

Distance learning may be conducted synchronously (real-time) through the use of chat rooms or audio/video bridges or asynchronously (time-delayed) through Web-based bulletin boards and threaded discussions (Waits & Lewis, 2003; Whiteman, 2002).

During the 2000-2001 academic year, the Internet and video conferencing were the two most often used delivery formats for distance learning courses. More specifically, 90% of institutions reported their primary mode of course delivery was asynchronous via the Internet, 43% synchronous via the Internet, 51% via two-way video and audio, and 41% via one-way prerecorded video (Waits & Lewis, 2003).

By eliminating geographical barriers, distance learning provided students an alternative method for accessing educational resources (Andrews, 2004; Benson et al., 2005; Keegan, 1986; Moore & Thompson, 1990). Many 2-year college students chose distance learning as a means for pursuing educational goals during the 2000-01 academic year, due to time and place limitations of the traditional classroom environment (Whiteman, 2002). As a result, the number of distance learning students grew tremendously. In online college courses, the number of distance learning students increased approximately 10% in a 2-year period, reaching nearly 3.5 million by the year 2007. More than 80% of these students were undergraduates (Allen & Seaman, 2007).

The U.S. Department of Education (2003) reported that increasing student access was a very important goal for the majority of institutions offering courses via distance

learning. Location, time constraints and affordability were identified as key factors for increasing access (Waits & Lewis, 2003). In response to the shortage of nurses with bachelor's degrees, Villa Julie College in Maryland formed partnerships with eight, 2-year colleges to offer RN to BS degrees. Courses were delivered synchronously via two-way video and audio (Lack, 2007).

Greenville Technical College in South Carolina offered approximately 20 different exams through the use of electronic-based testing for over 1,000 distance learning students on a monthly basis, some of which were enrolled at other institutions (Thomas, 2007). Furthermore, the Community College of the Air Force (CCAF) in Alabama serviced over 300,000 students through the use of distance learning technologies. As a result of distance learning, many Air Force personnel were able to continue their education while deployed overseas (Pluviose, 2007).

Past studies have shown the distance learning delivery format to be equally as effective as the formats used in the traditional classroom (Beare, 1989; Waschull, 2001). More specifically, a study was conducted in 2005 regarding Career and Technical Education (CTE). The purpose of this study was to explore the settings and composition of CTE courses delivered at a distance as compared to those offered in the traditional classroom environment (Benson et al., 2005). The study focused on the extent to which preferred learning outcomes were reached. The sample consisted of 112 traditional (on-campus) students and 81 distance learning students within 2-year colleges. Specific colleges were chosen, based on their extensive involvement with distance learning. A pre-and post-test model was used. The study revealed students enrolled in the distance

learning courses performed equally as well as those enrolled in the traditional course offering (Benson et al., 2005).

Washcull (2001) conducted a study with the purpose of investigating differences in student attrition, performance, and satisfaction in a distance learning psychology course as compared to the psychology course offered in the traditional learning environment. There were 33 participants, with 14 enrolled in the distance learning section and 19 in the traditional course section. Findings revealed that there were no significant differences in student attrition, test performance, or satisfaction.

A study was conducted at the State University of New York, University at Albany in which Web-based instructional modules were used to teach library content to first year students. The students involved with the Project Renaissance first year program were separated into two groups. One group received the Web-based instruction, and the other group received in-person instruction from the librarian. A pre- and post-test model was used. The study found format had no significant impact on test scores. The researcher concluded that the Web-based modules could be used (along with the integration of teaching assistants) to teach a large number of students (Germain & Jacobson, 2000).

The Distance Learning Student

The typical distance learning student was older than traditional students, with an average age range of 25-35 (Holmberg, 1995). The majority of students were female with many employed full- or part-time while balancing various family obligations (AACC, 2008; Dutton, Dutton, & Perry, 2002). Distance learning students lived at least 10 miles from the college campus (Dutton et al., 2002). They were characterized as being

independent, self-directed, and collaborative (Hale, 2007; Moore, 1993). Most students were directly impacted by time, money, and external commitments. In addition, many were motivated by professional advancement and the desire to serve others (Diaz & Bontenbal, 2001; Dubois, 1996).

A study conducted among students at a southern, mid-size business college sought to compare demographic and individual difference variables of distance and non-distance learners (Latanich, Nonis, & Hudson, 2001). Results revealed significant differences in gender, age, employment status, and motivation between distance and non-distance learners. The study found that the majority of distance learners were female and worked full-time. Distance learners were also shown to be older and more motivated than non-distance learners (Latanich, Nonis, & Hudson, 2001).

The Role of Distance Learning in the 2-Year College

Distance learning was a vital part of the 2-year college course delivery (Benson et al., 2005; Bower & Hardy, 2004). Many 2-year colleges have increased the number of distance learning course offerings to address student need. The Yuba Community College in California experienced a major increase in distance learning courses between 2000 and 2006. Offerings grew from eight courses in 2000 to more than 80 courses in 2006. In addition, enrollments grew from 150 to over 2,500 during the six year period (Hale, 2007).

For 2-year colleges, the use of distance learning technologies provided students access to course-related materials from any location (Allen & Seaman, 2007; Bower & Hardy, 2004; Fliegler, 2006). The U.S. Department of Education reported that 73% of

public, 2-year institutions confirmed that increasing student access to education was a goal for distance learning program offerings (Waits & Lewis, 2003). For instance, formed in the 1990s, the Oregon Community College Distance Education Consortium (OCCDEC) was developed to enhance access to courses for the growing community college student population located throughout the entire state. Through the use of distance learning technologies, OCCDEC offered more than 30,000 students access and flexibility in meeting degree and program requirements (Andrews, 2004).

Hudson Valley Community College in New York offered both credit and non-credit courses via cable TV and the Internet, with over 25 non-proximal degree programs (Payson, 1998). Snead State Community College (SSCC) in Northern Alabama also offered a number of programs through the use of distance learning technologies. SSCC offered 40 degree programs through the use of distance learning technologies. Enrollment grew by approximately 30% in a three year period, from 2003-2006 (Fliegler, 2006).

Through the use of distance learning technologies Western Kentucky Community and Technical College (WKCTC) offered a Captioning and Communication Access Real-time Translation Program (CART) to individuals throughout the state of Kentucky. The CART program was designed to provide those interested in assisting individuals with deafness and hearing impairments (Veazey & McInturff, 2006).

In response to the nation-wide teacher shortage, Rio Salado College in Arizona established a distance learning teacher preparation program for elementary, secondary and special education teachers. This program provided students with the opportunity to take courses towards teacher certification at a distance. Students from over 20 states and

10 different countries enrolled in the program within the first year (Johnson & Briden, 2004).

The use of distance learning technologies has also increased faculty/student interaction within the 2-year college. Distance learning classes allowed students to take more time to offer well-thought-out responses and to review previous replies by classmates (Whiteman, 2002). In addition, students who were not comfortable participating in a traditional classroom environment became more relaxed and willing to contribute via email, discussion boards, chat rooms, or other forms of technology (Harris, 1998). For example, in a study completed by Lavooy and Palmer (2003), the group dynamics of the traditional classroom and distance classroom were observed and compared. This study revealed that a class environment enhanced by distance learning technologies resulted in a greater cooperative group dynamic without any prompting from the instructor. Another comparison revealed that almost every student that accessed the lecture in the distance learning environment participated by asking and answering questions, while little participation was observed in the traditional classroom setting (Lavooy & Palmer, 2003).

Two-year colleges were also ideal for professional development in technical, vocational, and service fields, where workers were seeking such programs offered through distance learning (Bower & Hardy, 2004). Also, the need for professional-development programs increased tremendously in response to the demand in various fields, such as health care (Bower & Hardy, 2004). Businesses, government agencies, and

non-profit organizations looked to 2-year colleges to provide various programs for their workers (Levine et al., 2004).

Student Retention

Fike and Fike (2008) defined student retention as a measure of the number of students who persisted in their studies from one semester to the next. Student retention was an important issue for many institutions of higher education (Cutright, 2007; Glass & Oakley, 2003; Hsieh, Sullivan, & Guerra, 2007; Zepke & Leach, 2005). An institution's retention rate was associated with the quality of education provided (Wyman, 1997). In addition, some states used student retention rates as a means for allocating state funding (Borrego, 2002). This section of the literature review is divided into two parts: (a) student retention rates within post secondary institutions; (b) variables that influence student retention rates.

Student Retention Rates within Post Secondary Institutions

Student retention rates are a major issue within post secondary institutions. Wild and Ebbers (2002) found that 2-year college student retention rates were significantly lower than those of 4-year colleges. Waits and Lewis (2003) noted that only half of the degree-seeking students who entered higher education during the 2000-01 academic year actually earned a bachelor's degree.

Sandiford and Jackson (2003) conducted a study among nursing students within Florida Community Colleges. Results revealed a first-semester attrition rate of 41% (Sandiford & Jackson, 2003). Sinclair Community College reported that 45% of the first-year degree seeking students dropped-out during the first year (Online Student Tracking

System Nets Retention Award, 2005). Furthermore, 40% of fulltime, first-year students left Owens Community College within the first year (Two Ohio Colleges in Study on Dropout Rates, 2004).

Variables that Influence Student Retention Rates

A review of the literature regarding student retention revealed a number of variables that influenced a first-year student's persistence to second semester or second year. These variables included motivation, academic capabilities, social characteristics (Tinto, 1993), financial problems (Allen, 1999; Bean & Metzner, 1985), employment, family obligations (Bean & Metzner, 1985; Callendar & Kemp, 2000), commitment (Bean & Metzner, 1985; Bennett, 2003; Tinto, 1993), goal orientation (Hsieh et al., 2007), social isolation (Rovai, 2000) and technology (Rovai, 2002).

Hawley and Harris (2006) conducted a study with the purpose of analyzing student characteristics that influenced student retention. The study was conducted at a metropolitan community college. Findings revealed student motivations and expectations had a direct impact on student persistence to second year (Hawley & Harris, 2006). In addition, a study was conducted within the community college system in North Carolina. Fifty-nine accounting department chairpersons were asked to participate in the study. Among many variables, commitment, personal motivation and academic abilities were identified as predictors of success for students entering the accounting program (Glass & Oakley, 2003).

A study was also conducted at Bellevue and Edmonds Community Colleges. One of the study goals was to look specifically at improving student retention in distance

learning courses. Findings revealed that lifestyle variables such as children and work directly contributed to student drop-out rates (Lorenzetti, 2005).

The Conceptual Framework

The conceptual framework for this study incorporates variables from Tinto's Student Integration Model (Tinto, 1975), Bean and Metzner's Nontraditional Student Attrition Model (Bean & Metzner, 1985), and Rogers Model of the Diffusion of Innovation (Rogers, 1995). This section provides an overview of each model in the theoretical components area. A discussion of the composite conceptual framework is also provided.

Theoretical Components

One of the most well-known models for student retention is Tinto's student integration model (1975). As outlined by Tinto, students enter college with certain characteristics, including family background, skills and attributes, pre-college achievements and educational experiences (Tinto, 1975). These variables impact a student's ability to become integrated into the life of the institution (i.e., institutional fit) and in turn, directly influence a student's commitment to the institution and graduation. In other words, the stronger the relationship between the student's ideals and goals and those of the institution, the more likely the student persisted to graduation (Tinto, 1975).

Tinto stated that once a student arrives at college, academic and social integration became predictors of student retention. Academic integration refers to actual academic performance and perceived academic performance. Social integration refers to the establishment of peer relationships. Both academic and social integration change as

integration and commitment interact (see Figure 1). As stated by Tinto (1975), “it was the interplay between the individual’s commitment to the goal of college completion and his commitment to the institution that determined whether or not the individual decided to drop out” (Tinto, 1975, p. 96).

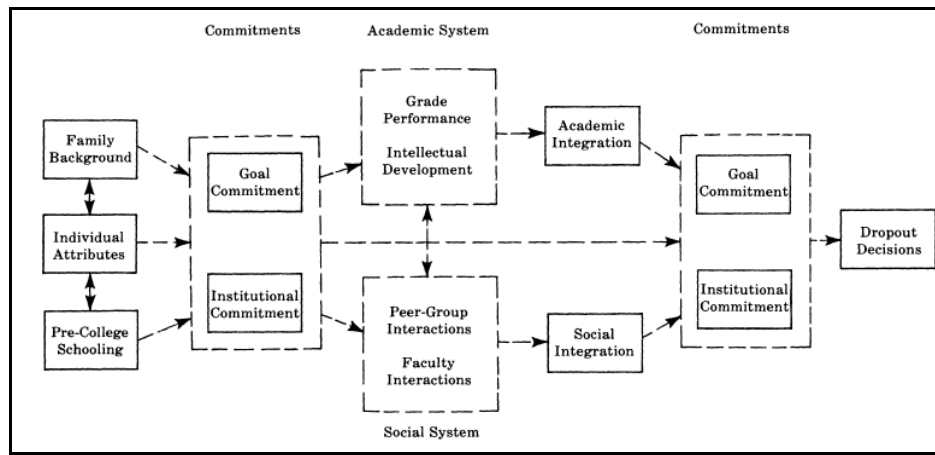


Figure 1. Tinto's student integration model (Tinto, 1975). Reprinted with permission (see Appendix F).

Further research indicated that social integration was not as important for 2-year college students as academic integration (Bean & Metzner, 1985). Bean and Metzner (1985) examined variables that affected student dropout rates specifically for nontraditional students. Bean and Metzner defined nontraditional students as being older than 24 years of age, living off-campus, and pursuing their education on a part-time basis.

Consistent with Tinto's model, Bean and Metzner's (1985) model used the concept of student institutional fit to predict student persistence, but Bean and Metzner noted that academic integration had more of an impact on student persistence for nontraditional students. As such, the researchers identified four key variables of background, academics,

environment and academic and psychological outcomes that affected persistence rates for nontraditional students (see Figure 2).

Age, sex, race/ethnicity, enrollment status, GPA (based on performance in high school) were categorized as background variables. Academic variables incorporate advising, study habits, and course availability. Environmental variables included finances, employment, and family responsibilities. Financial difficulty and intent to leave were variables associated with academic and psychological outcomes. According to Bean and Metzner, a combination of these variables influenced a student's decision to dropout (Bean & Metzner, 1985).

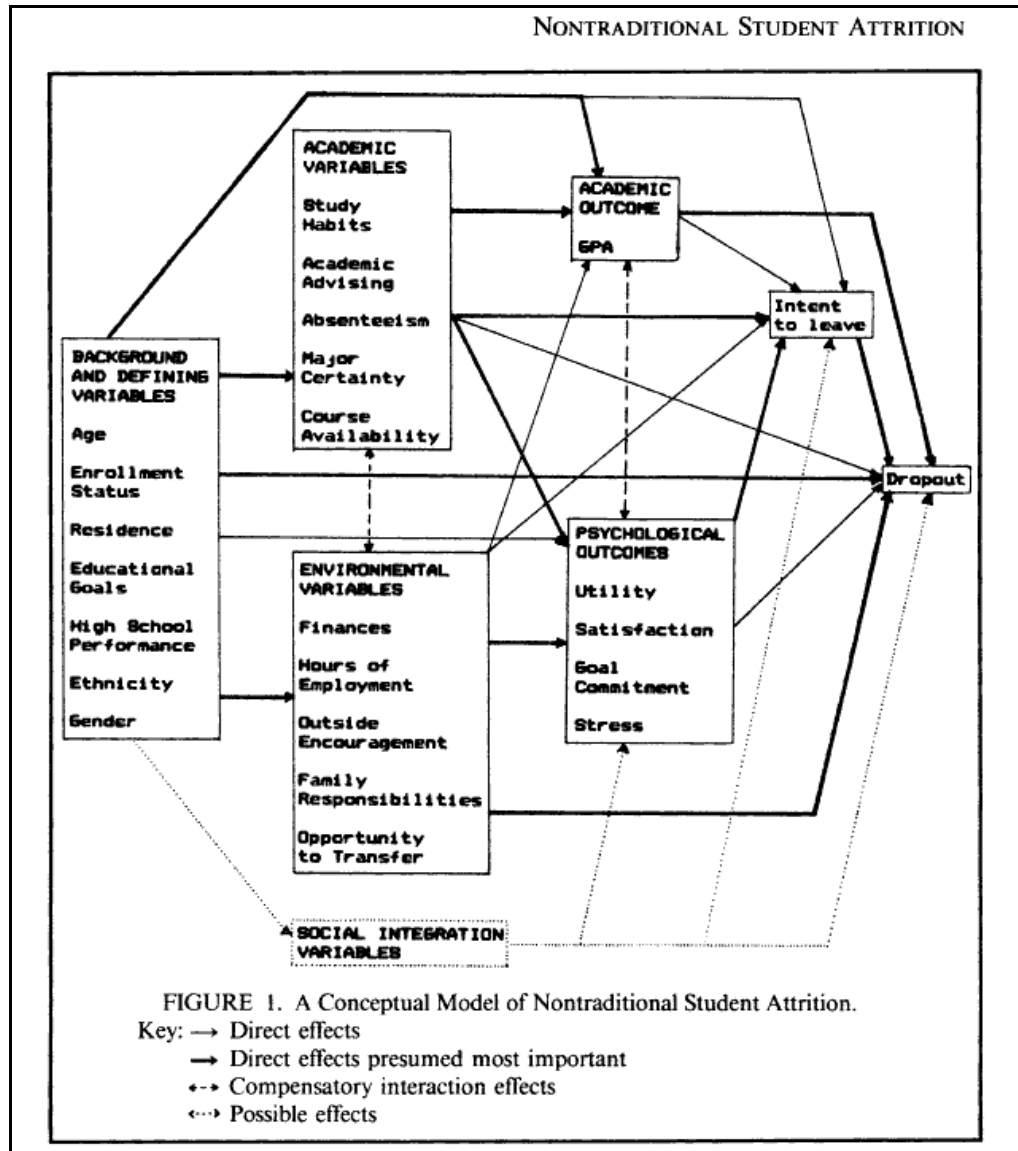


Figure 2. Bean & Metzner's nontraditional student attrition model (Bean & Metzner, 1985). Reprinted with permission (see Appendix F).

Rogers' Model of the Diffusion of Innovation (1995) is also relevant to the retention of first-year students enrolled in non-proximal distance learning programs. An innovation-decision process was included as a part of Rogers' model (1995). Rogers' defined the process as the "process through which an individual (or other decision making unit such as a group, society, economy, or country) passes through the innovation-decision process" (p. 10). It consisted of five stages, including knowledge, persuasion, decision, implementation, and confirmation (Rogers, 1995).

Innovation was defined as "anything perceived as new by an individual or group" (Rogers, 1995, p. 11). For the purposes of this study, innovation refers directly to the way in which distance learning technologies are used to deliver non-proximal distance learning programs. Types of distance learning technologies used include the Internet, prerecorded video, audio/phone conferencing, video conferencing, and CD-ROM (Waits & Lewis, 2003). Therefore, concepts of Rogers' innovation-decision process are relevant.

The following outlines Roger's innovation decision process in this study. The first-year distance learning student becomes aware of [knowledge] and develops an attitude [persuasion] towards the type of delivery format being used in the complete distance learning program. The first-year distance learning student then decides to participate in the program [decision] and begins to learn and use the designated technology in order to complete coursework [implementation]. The first-year distance learning student decides whether or not to continue use of technologies to complete the program [confirmation]. As such, Rogers' model reinforces the necessity of technology experience and technology access for distance learning students (see Figure 3).

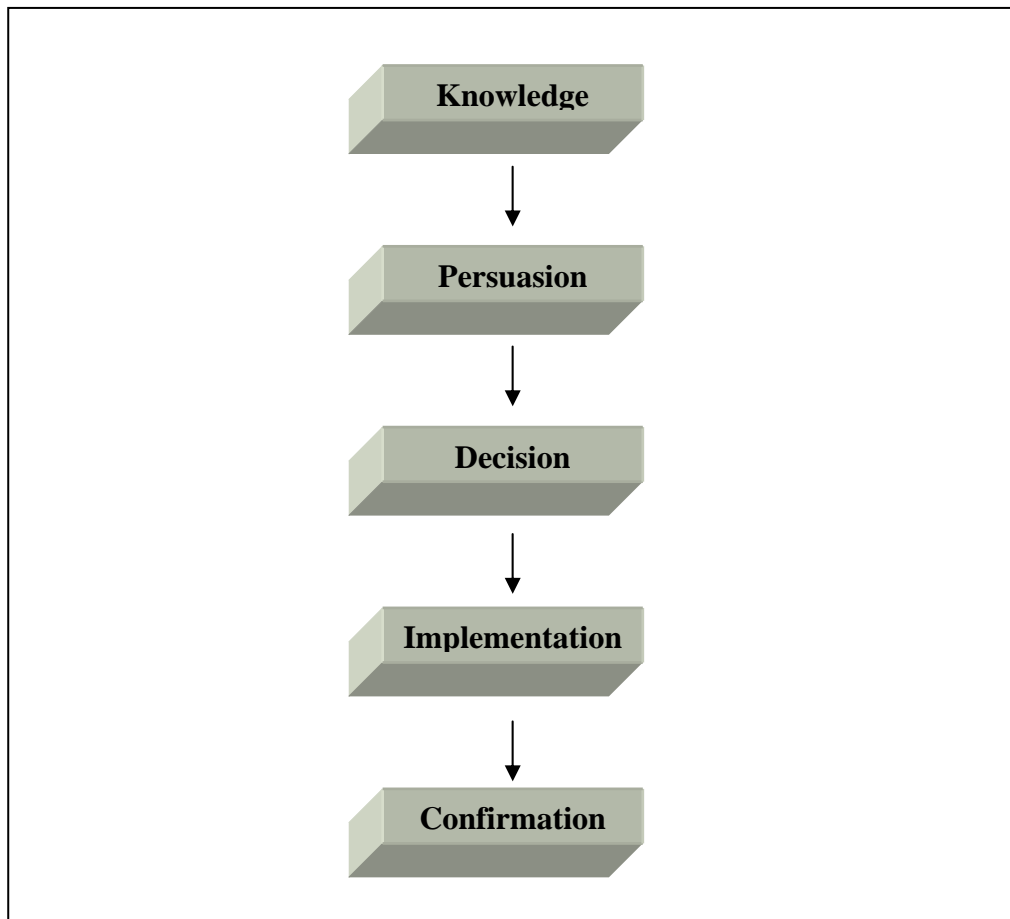


Figure 3. Roger's Model of the Diffusion of Innovation.

Composite Conceptual Framework

This study explores pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. The conceptual framework used for this study is based on Tinto's Student Integration Model (Tinto, 1975), Bean and Metzner's Nontraditional Student Attrition Model (Bean & Metzner, 1985), and Rogers Model of the Diffusion of Innovation (Rogers, 1995). This section is divided into two main components of the composite conceptual framework, including (a) pre-admission characteristics and (b) post-admission characteristics (see Figure 4). The conceptual framework consists of 11 variables: (a) age, (b) sex, (c) race, (d) GPA, (e) technology experience, (f) employment status, (g) family obligations, (h) finances, (i) academic integration, (j) commitment, and (k) technology access.

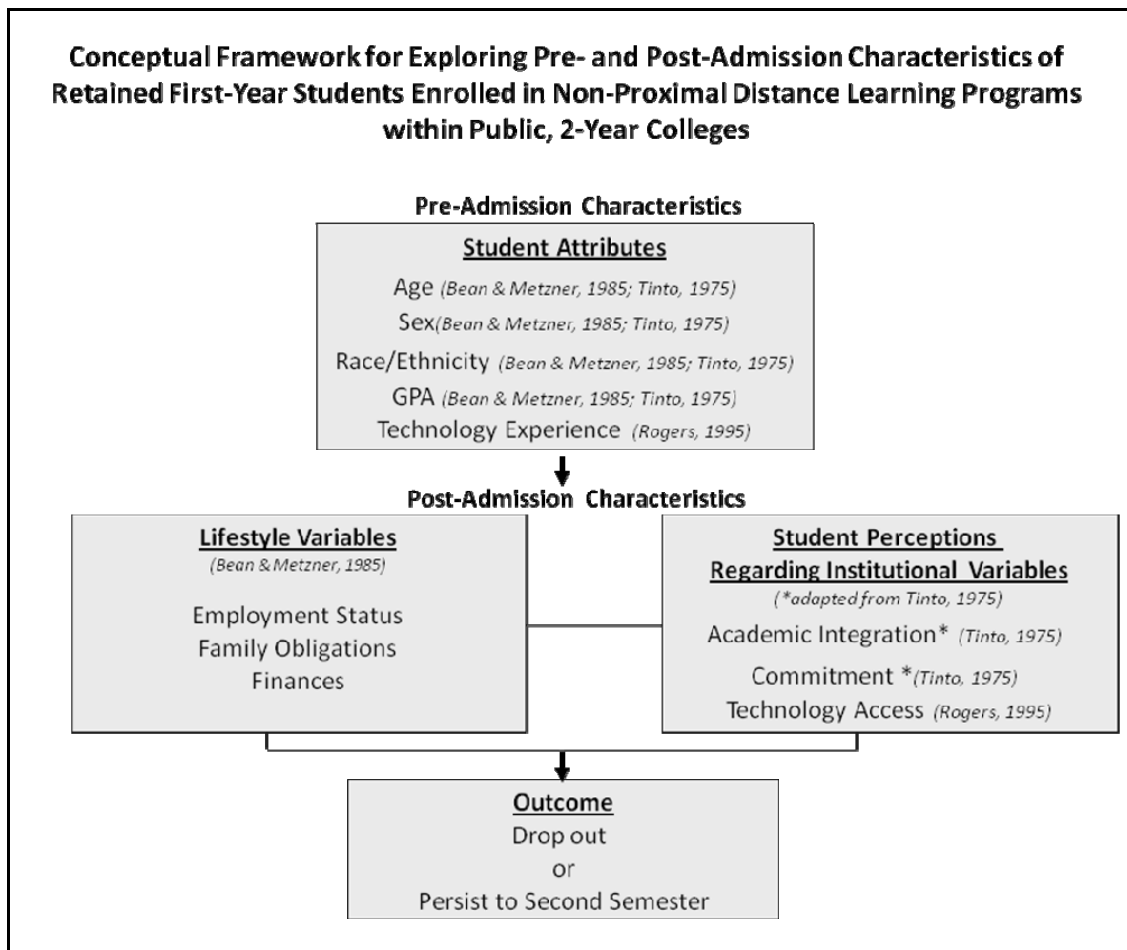


Figure 4. Composite conceptual framework.

Pre-Admission Characteristics

Pre-admission characteristics include student attributes. These student attributes were selected based on prior research which included: (a) age, (b) sex, (c) race/ethnicity, and (d) GPA as pre-admission student attributes (Bean & Metzner, 1985; Pascarella & Chapman, 1983; Tinto, 1975). Technology experience was directly related to the use of technology in the classroom as a result of innovations described by Rogers (1995).

Age

Age was divided into two categories: (a) traditional-aged students and (b) nontraditional-aged students. Traditional-aged students were between the ages of 18 and 24 (Adelman, 2005). Nontraditional-aged students were at least 25 years of age (Bean & Metzner, 1985). Almost half of the 2-year college student population was over the age of 25. The average age of 2-year college students in 2008 in the United States (US) was 29 (American Association of Community Colleges, 2008).

Much past research regarding age and student retention was focused on students participating in the traditional classroom environment or individual distance learning courses. Research findings were inconsistent. Strauss and Volkwein (2004) and Valasek (2004) reported that student age was a significant predictor of institutional commitment and student persistence. In both studies, findings revealed that older, nontraditional-aged students had a higher level of commitment and thus were more likely to persist than traditional-aged students (Strauss & Volkwein, 2004; Valasek, 2001). More specifically, Valasek's study revealed that 65% of traditional-aged students withdrew from courses as compared to 23% of nontraditional-aged students (Valasek, 2001). Additionally, in a

study aimed to investigate the effects of various variables, including age, on 2-year college student persistence, findings revealed that students over the age of 30 were more likely to persist to the second year (Cofer & Somers, 2001).

Conversely, several studies have found that nontraditional-aged students were less likely to persist than traditional aged students (Calcagno, Crosta, Bailey, & Jenkins, 2007; Choy & National Center for Education Statistics, 2002). As such, the research to date is inconclusive and, therefore, an assumption regarding the age of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment cannot be made.

Sex

Sex refers to the genetic differences between males and females (Cofer & Somers, 2000). Approximately 60% of the 2-year college student population in 2008 was female (American Association of Community Colleges, 2008). Kramarae (2003) noted that distance learning has been marketed towards females more so than males (Kramarae, 2003).

Results of existing research concerning sex and student retention within the 2-year college is mixed. Findings from two studies revealed women were more likely to persist than men (Bailey et al., 2005; Feldman, 1993). Conversely, studies conducted by Cofer and Somers (2000), Higgins (2005), and Voorhees and Zhou (2000) revealed no statistically significant relationship between sex and student retention.

Few empirical studies regarding the sex and student retention of first-year students enrolled in non-proximal distance learning programs with a public, 2-year

college environment exists. As such, the research to date is inconclusive and, therefore, an assumption regarding sex and retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment cannot be made.

Race/Ethnicity

As per the National Assessment of Educational Progress, race/ethnicity is based on six categories, including: (a) White, (b) Black, (c) Hispanic, (d) Asian/Pacific Islander, (e) American Indian (including Alaska Native), and (f) Other (The National Assessment of Educational Progress, 2008). The other category was reserved for those students who self-identify with more than one category or a category other than those listed (The National Assessment of Educational Progress, 2008). Based on these categories, 65% of the United States 2-year college student population was White, 13% were Black, 15% were Hispanic, 6% were Asian/Pacific Islander and 1% were American Indian (American Association of Community Colleges, 2008).

Research results regarding race/ethnicity and student retention was varied. For example, one study indicated that minority students enrolled in 2-year colleges were less likely to persist to the second year than Whites (Bailey et al., 2005). More specifically, research by the National Center for Education Statistics revealed that Blacks enrolled in 2-year colleges were more likely to drop out than Whites or Asian/Pacific Islanders (Berkner, He, & Forrest, 2002). One study revealed that Hispanic students were more likely to drop out than Blacks (Tovar & Simon, 2006). In contrast, a team of researchers found no significant relationship between race/ethnicity and student retention (Cofer & Somers, 2000).

Research pertaining to the association of race/ethnicity and student retention within non-proximal distance learning programs is limited. Much existing research was based on students enrolled in the traditional classroom environment. Consequently, an assumption regarding race/ethnicity and retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment cannot be made.

Grade Point Average (GPA)

According to prior research, grade point average (GPA) was primarily based on high school academic performance (Bean & Metzner, 1985; Pascarella & Chapman, 1983; Tinto, 1975). Existing research concerning GPA and student retention within the 2-year college was mixed. A study conducted by Cofer and Somers (2000) found students with high GPA's were more likely to persist than students with low GPA's. Research by Makuakane-Drechsel and Hagedorn (2000) supported these findings. More specifically, in a longitudinal study conducted among students enrolled within the 2-year colleges in Hawaii, findings revealed that the likelihood of student retention grew by over 50% per each grade point increase in the student's overall GPA (Makuakane-Drechsel & Hagedorn, 2000).

Conversely, Osborn and Turner (2002) found that GPA had no significant impact on student retention. There was very little empirical research available regarding the impact of GPA on retained first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges. Therefore, an assumption regarding GPA and

retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment cannot be made.

Technology Experience

For the purposes of this research, technology experience is defined as the perceived level of familiarity, experience and capability students have with technology (Schrum, 2003). As of 2008, over 90% of 2-year colleges offered at least one distance learning course, with more than 40% of public, 2-year colleges providing students the opportunity to enroll in a non-proximal distance learning program (American Association of Community Colleges, 2008). Internet and video conferencing were the two most often used delivery formats for distance learning during the 2000-2001 academic year (Waits & Lewis, 2003). As such, technology experience was essential for 2-year college students (Zeszotarski, 2000).

Past research revealed a relationship between technology experience and student retention, but findings are mixed. For example, research by Sherry and Sherry (1996) and Moore et al. (2002) indicated that distance learning students with technology experience were more likely to be retained than those without technology experience. Research by Muse (2003) supported these findings, revealing the most common reason for student dropout in 2-year college distance learning courses was the students' inability to electronically obtain, access, or install the necessary class materials in a timely manner.

In contrast, Valasek found that technology experience had no significant impact on persistence (Valasek, 2001). Research in this area was also limited to the traditional classroom environment (Sherry, 1997) or single, distance learning courses (Valasek,

2001; Muse, 2003). Therefore, an assumption regarding technology experience and retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment cannot be made.

Post-Admission Characteristics

For the purposes of this study, post-admission characteristics include both lifestyle and student perceptions regarding institutional variables. As such, this section is divided into the following parts: (a) lifestyle variables and (b) student perceptions regarding institutional variables.

Lifestyle Variables

According to Bean and Metzner (1985), lifestyle variables included: (a) employment status, (b) family obligations, and (c) finances. Institutions have very little control over student lifestyles (Bean & Metzner, 1985; Pascarella & Chapman, 1983). Nonetheless, lifestyle variables directly impacted student retention (Bean & Metzner, 1985; Carr, 2000; Tinto, 1975). Students were more likely to drop out of courses because of their lifestyles (Carr, 2000; Kemp, 2002; Lorenzetti, 2005; Moore et al., 2002). The next section will explore three areas of lifestyle variables: (a) employment status; (b) family obligations; and (c) finances.

Employment Status

As reported by the National Center of Education Statistics (2007), an individual's employment status was contingent upon whether or not they are a part of the labor force (National Center for Education Statistics, 2007). There are three main categories: full-

time, part-time, and unemployed but looking for work (National Center for Education Statistics, 2007).

During the 2007-08 academic year, the majority of students enrolled in 2-year colleges were employed (American Association of Community Colleges, 2008; Bryant, 2001). More specifically, 27% of full-time students were employed full-time, 50% of full-time students were employed part-time, 50% of part-time students were employed full-time and 33% of part-time students were employed part-time (AACC, 2008). In addition, 91% of the student respondents involved with Valaske's (2001) research reported working more than 10 hours per week and 55% reported working more than 30 hours per week (Valasek, 2001).

Prior research has revealed a relationship between employment status and student retention, but findings were inconsistent. For instance, Sandiford and Jackson (2003) found that employment status had no significant impact on student retention (Sandiford & Jackson, 2003). Conversely, Bers and Smith (1991) and Brooks-Leonard (1991) found that employment status did have a significant impact on student retention. In addition, research addressing the employment status of students enrolled in non-proximal distance learning programs was limited. Therefore, an assumption regarding employment status and retention for first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment cannot be made.

Family Obligations

Few empirical studies regarding family obligations and student retention were available. In fact, during the development of their model on student attrition, Bean and

Metzner (1985) noted that “no codifications could be found” (p. 493). Of the research available, most associated family obligations with the number children (Bean & Metzner, 1985; Hernandez, 2006; Ives, 2006; Sydow & Sandel, 1998). As such, for the purposes of this study, family obligations will be associated with the number of children.

Cohen and Brawer (2003) found that 2-year college students had greater family responsibilities than 4-year college students (Cohen & Brawer, 2003). In addition, roughly 17% of the 2-year college students were single parents (American Association of Community Colleges, 2008). However, the limited availability of empirical research made it difficult to formulate assumptions regarding family obligation and retention of first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment.

Finances

Bean and Metzner (1985) associated finances with the student’s ability to pay for tuition. Many 2-year colleges relied on public funding for revenue (Ives, 2006). Approximately 58% of public, 2-year college revenues were provided through state and local funding (American Association of Community Colleges, 2008). Reductions in state funding directly impacted student tuition and fees (Ives, 2006). More specifically, declines in state funding led to increases in tuition and fees (Cofer & Somers, 2000; Ives, 2006).

During the 2007-08 academic year, the average annual tuition fee for 2-year colleges was \$2,361 (American Association of Community Colleges, 2008). Almost half of the 2-year college student population received some form of financial aid. In

particular, federal grants were awarded to 23% of 2-year college students. Eleven percent of 2-year college students received federal loans and 12% received state aid (AACC, 2008).

Prior research revealed a relationship between finances and student retention, but findings were varied. Roueche (2001) found that although the average family income of students enrolled within the Community College of Denver (CCD) was approximately \$10,000 (Roueche et al., 2001). Financial support was available for a percentage of students, but not for everyone. As a result, the study noted that a significant number of non-recipients dropped out as a result of financial constraints (Roueche et al., 2001).

Cofers and Somers (2000) revealed that students were less likely to persist for each \$1000 in tuition costs and more likely to persist as financial support (i.e., grants, student loans, etc...) increased. In contrast, research by Dowd and Coury (2006) revealed that student loans had a negative effect on student persistence.

The variation in research results place limitations on the ideals regarding the relationship between finances and student retention. Therefore, an assumption regarding finances and retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment cannot be made.

Student Perceptions Regarding Institutional Variables

Student perceptions regarding institutional variables directly impact student retention, in that students are more likely to drop out of courses because of their view (or opinions) regarding institutional variables (Bean & Metzner, 1985; Pascarella & Chapman, 1983; Tinto, 1975). For the purposes of this study, the researcher chose the

institutional variables of academic integration and commitment from Tinto's work (Tinto, 1975). Academic integration included grade point average (GPA) and academic advising (Bean & Metzner, 1985; Tinto, 1975). Commitment included institutional commitment and commitment to graduation (Pascarella & Chapman, 1983). Another institutional variable as related to the use of the innovation (i.e., distance learning technologies) was access to technology (Rogers, 1995). The next section will explore three areas of student perceptions regarding institutional variables: (a) academic integration; (b) commitment; and (c) technology access.

Academic Integration

Academic integration referred to actual academic performance and perceived academic performance (Tinto, 1975). Pascarella and Chapman (1983) used a number of variables to measure academic integration within 2-year institutions, including: (a) high school GPA, (b) college GPA, and (c) academic advising (Bean & Metzner, 1985; Pascarella & Chapman, 1983; Tinto, 1975). Academic advising refers to the perceived quality of academic advising received by the student while in college (Bean & Metzner, 1985).

A vast amount of research was available regarding the relationship between academic integration and student retention. Research by Graham and Donaldson (1996) and Richardson and King (1998) suggested that academic performance of nontraditional-aged students was equivalent or higher than that of traditional-aged students. Pascarella and Chapman (1983) revealed that academic integration had stronger effects on student retention than social integration. A study conducted within a large, multi-campus

community college in Virginia, revealed that academic integration had a direct impact on persistence of traditional-aged students, but no significant impact on the persistence of nontraditional-aged students (Sorey & Duggan, 2008). Próspero and Vohra-Gupta (2007) noted that academic integration resulted in higher GPA's and had a significant positive impact on student retention for first generation students. Thomas (2000) also discovered a positive relationship between academic integration and student retention (S. L. Thomas, 2000).

In addition, a study by McArthur (2005) at Atlantic Cape Community College indicated a positive relationship between academic advising and student retention. As academic advising increased, student retention improved. Overall results revealed a 15% increase over the previous average retention rate (McArthur, 2005).

The results of a student engagement survey administered in Fall 2007 among 22 two-year colleges revealed that only 50% of the student population were retained during the first-year. Findings indicated the lack of academic advising was one of the main causes for poor retention rates (Sander, 2008). Approximately 40% of respondents reported using friends, family and students for academic advising instead of the academic planning services provided by the institution (Sander, 2008). The results of a student engagement survey administered in 2006 at J. Sargeant Reynolds Community College revealed that over 50% of the student population stated that academic advising by faculty was very important to them (Ashburn, Bartlett, & Wolverston, 2006). Unfortunately, 40% of part-time faculty reported not spending any time advising students (Ashburn et al., 2006).

Most research regarding the association of academic integration and student retention was based on students enrolled in programs offered in the traditional classroom environment or in a single, distance learning course. Few empirical studies existed regarding the connection between academic integration and retained first-year students enrolled in non-proximal distance learning programs within 2-year colleges. As such, the research to date is inconclusive and, therefore, an assumption regarding academic integration and retention of first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment cannot be made.

Commitment

Commitment was defined as a student's desire to graduate after the student has become familiar with the college environment (Bean & Metzner, 1985). Variables used by Pascarella and Chapman (1983) to measure commitment within 2-year institutions included institutional commitment and commitment to the goal of graduation.

Research is available concerning the relationship between commitment and student retention. Both Pascarella and Chapman (1983) and Bers and Smith (1991) revealed that commitment had a direct impact on student retention within 2-year colleges.

A study was conducted among 3,300 first-year, full-time students enrolled with a multi-campus community college in New York. Findings revealed that academic integration positively influenced commitment and thus student retention (Napoli & Wortman, 1998). Thomas (2000) revealed a positive relationship between commitment and student retention.

Few empirical studies existed regarding the relationship between commitment and retained first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges. The limited availability of such research made it difficult to formulate assumptions regarding commitment and retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment.

Technology Access

The underlying assumption involved with distance learning was that students have access to the technology, the appropriate skills to use the technology, and resources to maintain current within the use of technology. However, there is a gap between those who have access to the technology and those who do not. This gap is referred to as the “digital divide” (DeBell & Campbell, 2006). The “digital divide” has a direct impact on Blacks, Hispanics, single-parents, those over the age of 50, and persons with disabilities (National Center for Education Statistics, 2004).

Educational opportunities were limited by technology access (Zeszotarski, 2000). In a study conducted by Moore et al. (2002), lack of technology access was found to have a negative impact on student retention thus leading to low student retention rates (Moore et al., 2002).

Few empirical studies regarding the association of technology access and student retention of first-year students enrolled in non-proximal distance learning programs with a public, 2-year college environment exists. The limited availability of empirical research made it difficult to formulate assumptions regarding technology access and retained first-

year students enrolled in non-proximal distance learning programs within a public, 2-year college.

Summary

This chapter provided a review of the literature related to the 2-year college student, distance learning, and student retention. The student attrition theories regarding traditional-aged and non-traditional aged students, Roger's innovation diffusion theory, and the applicability of the theory to retained first-year student enrolled in a non-proximal distance learning program within a public, 2-year college were presented. The next chapter will present the methods and procedures that were used to guide this study.

CHAPTER THREE

RESEARCH DESIGN

Introduction

The main purpose of this study was to investigate pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. Based on prior research, the intentions of this study were to explore: (a) pre-admission student attributes of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment; (b) post-admission lifestyle variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment; and (c) post-admission student perceptions regarding institutional variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment.

This chapter presents a description of the methods and procedures used in this study. The population and sample, informed consent procedures, methodology, data collection procedures, and data analysis procedures are presented. A discussion of validity and reliability as related to the survey instrument is also included as a part of the methodology section.

Population and Sample

The study population consisted of retained first-year students enrolled in non-proximal distance learning programs among five colleges within the Virginia Community College System (VCCS). The VCCS was established in 1966 and currently consists of

twenty-three, 2-year colleges. As of 2007, more than 200,000 students were enrolled within the VCCS (Virginia Community College System, ¶). Much like the national community college profile, approximately 40% of VCCS students were over 25 years old and more than two-thirds attended college part-time, and two-thirds worked while attending school. More than 30% of students enrolled represented minority groups, and 59% were female (VCCS). During the 2006-07 academic year, over 70,000 students were enrolled in at least one distance learning course and more than 3,000 were enrolled in non-proximal distance learning programs (Virginia Community College System, 2007).

Upon contacting the 23 colleges within the VCCS, the researcher learned that nine of the 23 colleges offered students the opportunity to enroll in a non-proximal distance learning degree program during the 2008-09 academic year. Five of the nine colleges were available to participate in this study, including: (a) Germanna Community College (GCC), (b) J. Sargeant Reynolds Community College (JSRCC), (c) Rappahanock Community College (RCC), (d) Southwest Virginia Community College (SWCC), and (e) Virginia Western Community College (VWCC). A range of non-proximal distance learning programs were offered among these institutions, including Associates degrees in: Business Administration, Early Childhood Development, General Studies, Liberal Arts, Management, Medical Laboratory Technology, Opticianry, Respiratory Therapy, and Social Science. These institutions also represented a mixture of non-proximal distance learning delivery methods, including: (a) online, (b) interactive video and (c) independent study.

This study surveyed the complete population of identified retained first-year students enrolled in non-proximal distance learning programs (N=536) among the five participating institutions. The specific population focused on students who entered in the fall 2008 and were retained through to spring 2009. A total of 197 students responded to the survey, yielding an overall response rate of 37% (see Table 1). All survey responses were usable.

Table 1
Participating Institutions and Student Response Rates

Institution	Identified Students (N=)	Respondents (n=)	Response Rates
GCC	138	52	38%
JRSCC	187	66	35%
RCC	83	32	39%
SWCC	50	19	38%
VWCC	78	28	36%
Total	536	197	37%

Informed Consent Procedures

The Clemson University Institutional Review Board for Human Subjects (IRB) granted permission to the researcher to conduct the study, with the understanding that there were no known risks associated with this research (see Appendix A). In addition, each participating institution provided the researcher with a letter of support, authorizing the researcher to conduct the study among their students (see Appendix B).

An email cover letter outlining the purpose of the study, the confidentiality and voluntary nature of the research, and a survey link was sent to each participant (see Appendix C). The informed consent document was included as a part of the Web-based

survey (see Appendix C) and appeared prior to delivery of survey questions.

Furthermore, as a part of the informed consent document, students were advised that no identifying information would be included in the data analysis and reporting stages of the study. Doing so eliminated the possibility of personally connecting respondents to results.

Methodology

The researcher used a descriptive, quantitative study method. Descriptive research was intended to provide an accurate description of characteristics of a particular individual, event, or group (Polit & Hungler, 1999). This form of research was also used to describe what already exists in order to identify variables that might be of interest in future investigations (Polit and Hungler, 1999). In addition, the descriptive design provided perceptions and views of respondents about the phenomenon studied (Burns & Grove, 1993). As such, the descriptive design was appropriate for the study since the investigator was looking to reveal characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment and the frequency with which these characteristics occurred. The methodology section is divided into three parts: (a) a description of the survey instrument; (b) pilot testing of the survey instrument; and (c) reliability and validity of the survey instrument.

A Description of the Survey Instrument

To address the three research questions, the researcher used a Web-based, cross-sectional survey. A survey is a generalized means of data collection (Creswell, 2003). Surveys can be used with non-experimental research designs and may be structured or unstructured (Trochim, 2004). With cross-sectional surveys, data are collected at a

particular point in time from a sample, or subset of the population (Trochim, 2004).

Surveys may be mailed, administered in a group setting, or made available electronically, via email or Website (Ott & Longnecker, 2001; Schleyer & Forrest, 2000; Trochim, 2004).

The advantages of using a Web-based survey instrument include easy access, immediate delivery, flexibility in format, and reduction in time and cost. In addition, electronic surveys allow for asynchronous communication and the ability to host large sample sizes (Daley et al., 2003; Dillman, 2000; Granello & Wheaton, 2004; Schleyer & Forrest, 2000; Trochim, 2004).

Granello and Wheaton (2004) noted that low response rates was a disadvantage of Web-based surveys. To address the possible low response rate, the researcher worked with a gatekeeper at each institution to send reminders to subjects and included an expected time frame to complete the survey in the initial notification (Crawford, Couper, & Lamias, 2001; Dillman, 2000; Kittleson, 1997; Trochim, 2004).

Another disadvantage of Web-based surveys includes access to technology (Trochim, 2004). This introduces the concepts related to the “digital divide”. The “digital divide” may be defined as the gap between those who have access to computer technology and those who do not (DeBell & Chapman, 2006). Although there has been an overall increase in the use of technology throughout the US, the “digital divide” still has a direct impact on Blacks, Hispanics, single-parents, those over the age of 50, and persons with disabilities (DeBell & Chapman, 2006). The researcher assumes minimal impact from this drawback of electronic surveys, because the sample was drawn from

students who have completed their first-semester in a complete distance learning program, where access to technology was a necessity.

For the purposes of this study, the researcher designed the survey instrument based on a review of the literature and past surveys administered by various sources (see Appendix D). The majority of survey questions were retrieved from a mixture of survey instruments designed by American College Testing (ACT). ACT is a non-profit organization that provides assessment and research information to various educational institutions (ACT, 2008). ACT offers 11 standardized survey instruments which address matters related to 2-year colleges. The researcher used questions from the following three ACT two-year college survey instruments: (a) entering student survey; (b) student opinion survey; and (c) survey of academic advising. Other survey questions were retrieved from studies conducted by the Board of Regents of the University System of Georgia (2003), and Pascarella and Chapman (1983). Prior to final implementation, the researcher acquired permission from the designers of each instrument authorizing the use of survey questions (see Appendix E).

The composite survey, Survey of Retained First-Year Students Enrolled in Non-Proximal Distance Learning Programs within a Public, 2-Year College Environment, consisted of 25 closed-ended questions and one open-ended question. The survey was divided into three sections: (a) lifestyle variables; (b) student perceptions regarding institutional variables; and (c) student attributes. The first section incorporated eight questions, with the purpose of gathering information regarding student lifestyles, including: employment status, family obligations, and finances. The second section

contained seven questions and was intended to gather information about student perceptions regarding institutional variables, including: academic integration, commitment, and technology access. The third section included 11 questions and was designed to gather demographic information from the respondents, including: age, sex, race/ethnicity, GPA, and technology experience.

Pilot Testing the Survey Instrument

The investigator pilot tested the composite survey during spring 2009. A pilot test was necessary in order to address reliability and validity of the survey, identify and resolve potential problems that may exist with the survey instrument itself, and address potential issues with the way in which the survey would be administered (Daley et al., 2003; Granello & Wheaton, 2004; Schleyer & Forrest, 2000). The pilot test also allowed for testing of the survey Website on different computer systems (Daley et al., 2003).

Two populations for the pilot test were used in an effort to address validity and reliability. The first group included students enrolled in a non-proximal distance learning program at the graduate degree level at Clemson University. The second group was comprised of 2-year college students enrolled in online courses at the associate's degree level at Northwest Florida State College (NWFSC).

Prior to executing both pilot tests, the researcher gained permission from the appropriate institutional contact. The institutional contact served as the gatekeeper, or the individual who controlled access to the student data (Creswell, 2003). Once permission was received, NWFSC was asked to provide the researcher with a letter of support (see Appendix B), identifying the authorized personnel (i.e., gatekeeper) to assist with the

research. The gatekeeper at Clemson University served as the non-proximal distance learning program coordinator and a faculty member. The gatekeeper at NWFSC served as the Associate Dean of Instruction and Educational Services.

As a part of each pilot test, the researcher worked with each gatekeeper to identify participants. In an effort to reduce additional biases, the researcher worked with the gatekeeper to ensure that the sample was complete, up-to-date and aligned with the target population of this study. Each gatekeeper was asked to provide the researcher with the total number of identified students, so that the response rate could be calculated.

The researcher also provided each gatekeeper with the email cover letter, which contained a link to the Web-based survey instrument (see Appendix C). Survey MonkeyTM was used to administer the survey. Survey MonkeyTM is a secure, Web-based survey instrument that allows researchers to create and administer surveys. This tool provided the researcher with the ability to send reminders, add error detection, and download and analyze data on a regular basis. The gatekeeper at each institution distributed the email containing the survey link to identified students.

A total of 225 participants for the pilot test were identified by the gatekeepers and 117 responded to the survey, yielding a response rate of 52%. Based on the pilot test findings, the researcher made one change to the survey instrument prior to the final survey. This change was necessary, because the 2-year colleges that offered non-proximal distance learning programs also provide equivalent programs in a traditional learning environment. Students have the opportunity to enroll in either set of classes. To

this end, one question was added to the beginning of the survey to help ensure accuracy of the target population remained consistent. The additional question was as follows:

“Do you intend to complete your degree program through distance learning?”

Reliability and Validity of the Survey Instrument

Reliability of a test refers to the consistency of the survey instrument (Creswell, 2003; Trochim, 2004). During the pilot test, the investigator administered the survey instrument to subjects enrolled in non-proximal distance learning programs at both the undergraduate and graduate level during spring 2009. Reliability was determined by estimating how well items that reflected the same construct yielded similar results (Fraenkel & Wallen, 2003; Trochim, 2004). Cronbach's alpha coefficient was calculated to determine the reliability of the technology experience section of the survey instrument. Cronbach's alpha coefficient is often used to determine the degree of internal consistency or the extent to which the survey items assess the same characteristic (Fink, 1995). The range of this coefficient is between .00 and 1.00, with .70 or higher as being an acceptable score (Fraenkel & Wallen, 2003). Technology experience was measured with a 12-item technology experience scale. Items were answered on a 3-point response format (1-3), with higher mean scores indicating higher levels of confidence ($M = 1.29$; $SD = 0.32$). Based on data from the pilot studies ($n=117$), Cronbach's alpha coefficient for technology experience was acceptable with a value of .86.

Face validity is defined as the degree to which the test appears to measure that which it is designed to measure (Trichim, 2004). As a part of each pilot study, participants were asked to provide the researcher with suggestions to improve the survey

instrument. Based on the feedback received from the respondents, no additional modifications were made to the survey instrument.

Data Collection

Preliminary Procedures

The researcher adhered to the following procedures prior to the implementation of the study:

1. Identified variables to be studied.
2. Defined population and sample to be studied.
3. Developed composite survey to meet the purpose of the study and gained permission from necessary individuals to use survey questions. A copy of the research question/survey items/data analysis procedure map may be found in Table 2. The survey instrument is in Appendix D and the corresponding permission letters are located in Appendix E.
4. Developed email cover letter and informed consent procedure for data collection (see Appendix C).
5. Obtained permission from Clemson University's Institutional Review Board for Human Subjects to conduct research (see Appendix A).
6. Selected computer programs to collect and analyze data.
7. Obtained permission from each identified institution to conduct the research (see Appendix B).

Table 2
Research Question/Survey Item/Data Analysis Procedure Map

Topic	Research Question	Items	Statistical Analysis	Source
Pre-Admission Characteristics: Student Attributes	1. What are the pre-admission student attributes of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?	Survey Questions Section III. Student Attributes	Descriptive Statistics <ul style="list-style-type: none"> • Frequencies • Cross Tabs (Chi-square) 	Q.16-21: (Bean & Metzner, 1985; Tinto, 2007; VCCS, 2007) Q. 22: (ACT, 2008b) Q. 23-24: (AACC, 2007; VCCS, 2008) Q. 25-26: (Board of Regents of the University System of Georgia, 2003)
Post-Admission Characteristics: Lifestyle Variables	2. What are the post-admission lifestyle variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?	Survey Questions Section I. Lifestyle Variables	Descriptive Statistics <ul style="list-style-type: none"> • Frequencies • Cross Tabs (Chi-square) 	Q. 1: (ACT, 2008a) Q. 2: (AACC, 2008) Q. 3-8: (ACT, 2008a; ACT, 2008b)
Post-Admission Characteristics: Student Perceptions Regarding Institutional Variables	3. What are the post-admission student perceptions regarding institutional variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?	Survey Questions Section II. Student Perceptions Regarding Institutional Variables	Descriptive Statistics <ul style="list-style-type: none"> • Frequencies • Cross Tabs (Chi-square) 	Q. 9-11: (Pascarella & Chapman, 1983) Q. 12: (ACT, 2008c) Q. 13-14: (AACC, 2008)

Operational Procedures

As with the pilot study, the investigator worked with a gatekeeper at each institution to identify participants and to ensure that the sample was complete, up-to-date and aligned with the target population. Each gatekeeper served as the institutional research officer or the non-proximal distance learning coordinator for their respective institution. Each gatekeeper was asked to provide the researcher with the total number of identified students in the population, so that the response rate could be calculated.

The researcher also provided each gatekeeper with the email cover letter, which contained a link to the Web-based survey instrument (see Appendix C). The investigator used Survey MonkeyTM to administer the survey. The researcher worked collaboratively with each gatekeeper to disseminate an email to all identified first-year students enrolled in non-proximal distance learning degree programs. The email explained the purpose of the survey, encouraged participation and provided a link to the Web-based survey instrument (Daley et al., 2003). The email also provided a description and purpose of the study. The researcher explained the voluntary nature of participation and confidentiality procedures to be followed (see Appendix C). The entire population was were given an equal opportunity to participate in this study. To increase response rates, a follow-up email was sent to all non-responding students. No incentive was provided to subjects for participation in this study.

Data Analysis

This study was designed to explore characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. The data were collected through the use of Survey MonkeyTM, an online survey tool. Once collected, the researcher transferred quantitative data into the Statistical Package for Social Sciences (SPSS), version 17.0.

Eleven variables were used in this study, including: (a) age, (b) sex, (c) race/ethnicity, (d) GPA, (e) technology experience, (f) employment status, (g) family obligations, (h) finances, (i) academic integration, (j) commitment, and (k) technology access. The researcher used a 95% confidence interval during the analyses. Ott and Longecker (2001) noted that confidence intervals were used to determine inconsistencies between true and observed values (or the amount of error in the data). The confidence interval was usually reported as 95%, which means there is a 95% chance that the data is accurate (Ott & Longecker, 2001).

With the use of SPSS, the researcher generated frequency and descriptive statistics to describe the data gathered from each survey question. However, two survey questions (items #5 and 6) allowed respondents to select multiple answers. To create accurate frequency tables for these questions, the researcher coded the multiple responses for each question as a multiple category set.

Cross tabulations were used by the researcher to show interrelationships between variables within each set of variables (i.e., student attributes, lifestyle variables, and student perceptions regarding institutional variables). As per Ott and Longecker (2001),

cross tabulations are typically used to present frequencies (counts) from a sample. Unlike frequency distributions, cross tabulations describe the distribution of two or more variables at the same time (Ott & Longnecker, 2001).

For this study, Pearson's Chi-square statistic was calculated as a part of the cross tabulations and was used by the researcher to determine associations between variables. According to Ott and Longnecker (2001), the Chi-square test of independence is frequently used for cross tabs. The Chi Square statistic compares the frequencies of categorical (nominal) responses between two (or more) independent groups. For this study, the researcher consider a p value of less than or equal to 0.05 as statistically significant. A Chi-square probability (significance level) of less than or equal to 0.05 is commonly interpreted as meaning the two variables are related (Ott & Longnecker, 2001).

Finally, summary information, tables, and figures were used, as appropriate, to facilitate the understanding and interpretation of the results. No identifying information was included in the data analysis and reporting stages of the study, thus eliminating the possibility of personally connecting respondents to results.

Summary

This chapter presented the methods and procedures used to guide this study and included an explanation of the population and sample, informed consent procedures, methodology, data collection procedures, and data analysis procedures. Validity and reliability considerations were also discussed. The next chapter will present the results of the data analysis.

CHAPTER FOUR

PRESENTATION OF FINDINGS

Introduction

The purpose of this study was to explore pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. The following research questions guided the investigation:

1. What are pre-admission student attributes of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?
2. What are post-admission lifestyle variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?
3. What are post-admission student perceptions regarding institutional variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?

The results of the Survey of Retained First-Year Students Enrolled in Non-Proximal Distance Learning Programs within a Public, 2-Year College Environment (see Appendix D) were used to answer the research questions. The complete population of retained first-year students enrolled in non-proximal distance learning programs (N=536) among five institutions within the VCCS was used in the study. A range of non-proximal distance learning programs were offered among these institutions, including Associates

degrees in: Business Administration, Early Childhood Development, General Studies, Liberal Arts, Management, Medical Laboratory Technology, Opticianry, Respiratory Therapy, and Social Science. These institutions also represented a mixture of non-proximal distance learning delivery methods, including: (a) online, (b) interactive video and (c) independent study.

The specific population focused on students who entered in the fall 2008 and were retained through to spring 2009. Out of 536 surveys, 197 were returned, yielding a response rate of 37%. All survey responses were usable.

Findings of the full study are presented in this chapter in three parts: (a) pre-admission student attributes; (b) post-admission lifestyle variables; and (c) post-admission student perceptions regarding institutional variables. Unless otherwise noted, all findings to the research questions are based on survey responses of the entire sample (n=197).

Student Attributes

The first research question asked what are the pre-admission student attributes of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment? As defined by the literature, student attributes include: (a) age, (b) sex, (c) race/ethnicity, (d) GPA, and (e) technology experience. Tables 3 – 9 and Figures 1 – 9 are based on frequency statistics that were used to present the data gathered from the student attribute section of the survey (items #16-26).

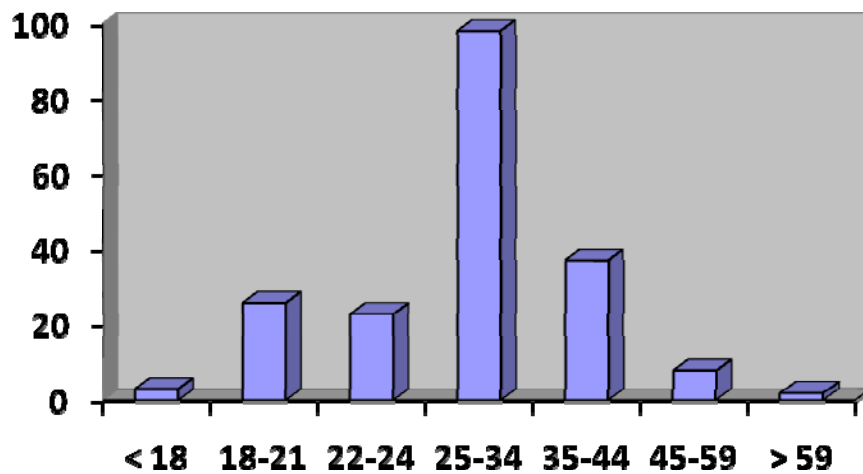
Age of Respondents

The age distributions (n=197) revealed that 49 (24.9%) were between the ages of 18 and 24, while 98 (49.7%) of respondents were between the ages of 25 and 34. Less than 25% reported being over the age of 34. The data exhibited in Table 3 & Figure 5 are the summarized results as reported by the participants.

Table 3
Age Distribution of Respondents

Age	Frequency	Percent	Cumulative Percent
< 18	3	1.5	1.5
18-21	26	13.2	14.7
22-24	23	11.7	26.4
25-34	98	49.7	76.1
35-44	37	18.8	94.9
45-59	8	4.1	99.0
> 59	2	1.0	100.0

(n=197)



(n=197)

Figure 5. Age distribution of respondents.

Sex of Respondents

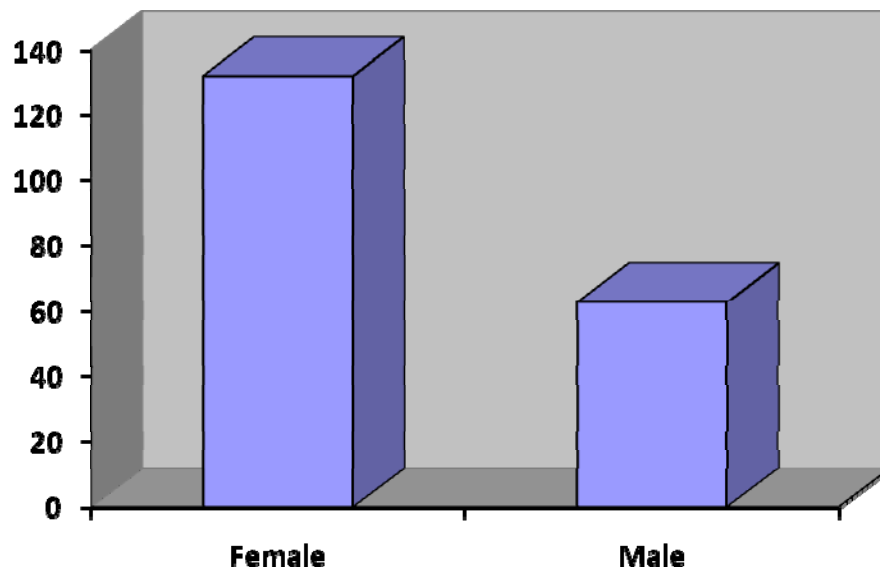
The sample (n=195 with two cases missing) consisted of 132 females (67%) and 63 males (32%). The data exhibited in Table 4 and Figure 6 are the summarized results as reported by the participants.

Table 4
Sex Distribution of Respondents

Sex	Frequency	Percent	Cumulative Percent
Female	132	67.0	100.0
Male	63	32.0	32.3

(n=195)

Frequency Missing = 2



(n=195)

Frequency Missing = 2

Figure 6. Sex distribution of respondents.

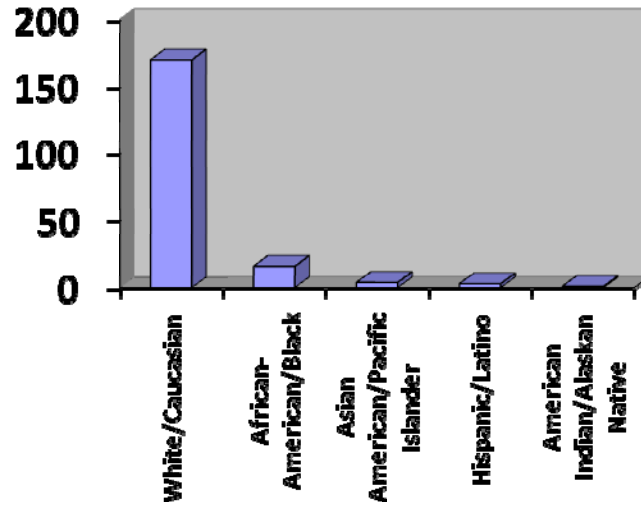
Race/Ethnicity of Respondents

The sample (n=194 with three cases missing) revealed that the vast majority (170 or 86.3%) of respondents were White/Caucasian, while 16 (8.1%) were African-American/Black, and less than 5% were either American Indian/Alaskan Native, Asian American/Pacific Islander, or Hispanic/Latino. The data exhibited in Table 5 and Figure 7 are the summarized results as reported by participants.

Table 5
Race/Ethnicity Distribution of Respondents

Race/Ethnicity	Frequency	Percent	Cumulative Percent
White/Caucasian	170	86.3	100.0
African-American/Black	16	8.1	8.2
Asian American/Pacific Islander	4	2.0	10.8
Hispanic/Latino	3	1.5	12.4
American Indian/Alaskan Native	1	.5	8.8

(n=194)
Frequency Missing = 3



(n=194)

Frequency Missing = 3

Figure 7. Race/ethnicity distribution of respondents.

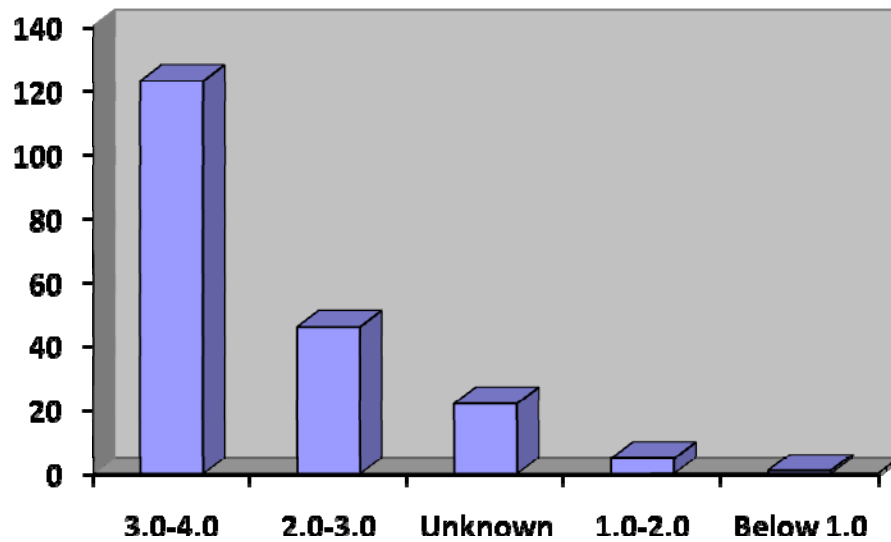
GPA of Respondents

The sample (n=197) revealed that the high school GPA of 123 (62.4%) respondents was between 3.0 and 4.0, while 46 (23.4%) had a high school GPA ranging from 2.0 to 3.0. Only 3% reported a high school GPA of below 2.0. The data exhibited in Table 6 and Figure 8 are the summarized results as reported by the participants.

Table 6
Distribution of Respondents High School GPA

HS GPA	Frequency	Percent	Cumulative Percent
3.0-4.0	123	62.4	62.4
2.0-3.0	46	23.4	85.8
Unknown	22	11.2	100.0
1.0-2.0	5	2.5	88.3
Below 1.0	1	.5	88.8

(n=197)



(n=197)

Figure 8. High school GPA distribution of respondents.

Technology Experience of Respondents

The sample (n=194 with three cases missing) revealed that the vast majority of respondents (182 or 92.4%) used the Internet on a daily basis. The sample (n=197) also revealed that over 95% of respondents were confident using the keyboard, accessing the Internet, navigating the Internet and using search engines, as well as sending and receiving email. In addition, over 90% of respondents reported that they were at least somewhat confident with working with files, resolving common error messages while surfing the Web, performing basic computer maintenance, troubleshooting, using word processing, spreadsheets, or presentation software, and accessing Web-based materials. However, an average of 21% of respondents revealed that they were not confident using a Web-camera or using video conferencing equipment. The data exhibited in Tables 7 and 8 as well as in Figure 9 are the summarized results as reported by the participants.

Table 7
Distribution of Respondents Internet Usage

Technology Experience	Frequency	Percent	Cumulative Percent
Daily	182	92.4	100.0
Once a week	1	.5	2.6
Several times per week	7	3.6	6.2
Several times per year	4	2.0	2.1

(n=194)
Frequency Missing = 3

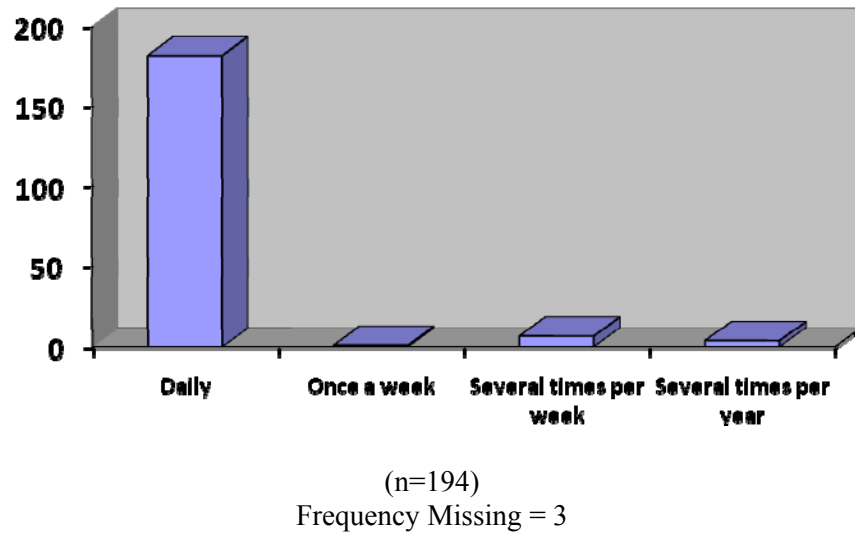


Figure 9. Distribution of respondents Internet usage.

Table 8
Distribution of Respondents Technology Experience

Item	Confident	Somewhat Confident	Not Confident
Use of Keyboard or Mouse	193 (98.0%)	3 (1.5%)	1 (0.5%)
Working with Files	173 (87.8%)	22 (11.2%)	2 (1.0%)
Internet: Accessing	192 (97.5%)	4 (2.0%)	1 (0.5%)
Internet: Navigating	188 (95.4%)	8 (4.1%)	1 (0.5%)
Internet: Errors	122 (61.9%)	68 (34.5%)	7 (3.6%)
Email	193 (98%.0)	3 (1.5%)	1 (0.5%)
Computer Maintenance	165 (83.8%)	26 (13.2%)	6 (3.0%)
Troubleshooting	127 (64.5%)	65 (33.0%)	4 (2.0%)
Software Usage	157 (79.7%)	35 (17.8%)	5 (2.5%)
Accessing Materials	171 (86.8%)	24 (12.2%)	2 (1.0%)
Web Camera	141 (71.6%)	21 (10.7%)	35 (17.8%)
Video Conferencing	100 (50.8%)	49 (24.9%)	48 (24.4%)

(n=197)

Other Significant Findings of Student Attributes

Cross tabulations were used to present frequencies from a sample and illustrate the distribution of two or more variables at the same time (Ott & Longnecker, 2001). For this study, the researcher used cross tabulations to reveal interrelationships between variables associated with pre-admission student attributes.

Pearson's Chi-square statistic is used for cross for tabulations to determine the relevant likelihood of relationship between variables (Ott & Longnecker, 2001). For this study, the researcher used Chi-square to determine the relationship between pre-admission student attributes. A Chi-square probability (significance level) of less than or equal to 0.05 is commonly interpreted as meaning the two variables are related (Ott & Longnecker, 2001). As such, the researcher considered a p-value of less than or equal to 0.05 as statistically significant. Tables 9a – 12b show the relationship between age and specific components related to technology experience. Tables 13a – 15b illustrate the relationship between high school grade point average (GPA) and specific components related to technology experience. Tables 16a – 18b show the relationship between sex and specific components related to technology experience. No other statistically significant relationship was found among other variables associated with pre-admission student attributes.

Table 9a revealed a statistically significant relationship between age and basic computer maintenance. Specifically, the chi-square value was 24.620 and the p-value was .017.

Table 9a

Chi-Square for Respondent Age and Basic Computer Maintenance

	Chi-square Value	df	Sig.
Pearson Chi-Square	24.620	12	.017

(n=197)

Table 9b revealed that the majority of non-traditional aged respondents (63.9%) were confident with performing basic computer maintenance, with 44.7% between the ages of 25 and 34. Roughly 19% of traditional aged students reported being confident with performing basic computer maintenance.

Table 9b

Crosstab for Respondent Age and Basic Computer Maintenance

			Basic Computer Maintenance		
			Confident	Somewhat Confident	Not Confident
Age	<18	Total	2	1	0
		Percent	1.0%	.5%	.0%
	18-21	Total	24	1	1
		Percent	12.2%	.5%	.5%
	22-24	Total	13	8	2
		Percent	6.6%	4.1%	1.0%
	25-34	Total	88	10	0
		Percent	44.7%	5.1%	.0%
	35-44	Total	30	4	3
		Percent	15.2%	2.0%	1.5%
	45-59	Total	6	2	0
		Percent	3.0%	1.0%	.0%
	>59	Total	2	0	0
		Percent	1.0%	.0%	.0%

(n=197)

Table 10a revealed a statistically significant association between age and resolving common errors while surfing the Web. Specifically, the chi-square value was 25.595 and the p-value was .012.

Table 10a

Chi-Square for Respondent Age and Resolving Common Errors While Surfing the Web

	Chi-square Value	df	Sig.
Pearson Chi-Square	25.595	12	.012

(n=197)

Table 10b revealed that the majority of non-traditional aged respondents (72.6%) were at least somewhat confident with resolving common errors while surfing the Web. Also, less than 5% of respondents (of all ages) noted that they were not confident resolving common errors while surfing the Web.

Table 10b

Crosstab for Respondent Age and Resolving Common Errors While Surfing the Web

			Resolving Common Errors While Surfing the Web		
			Confident	Somewhat Confident	Not Confident
Age	<18	Total	2	0	1
		Percent	1.0%	.0%	.5%
	18-21	Total	20	5	1
		Percent	10.2%	2.5%	.5%
	22-24	Total	11	9	3
		Percent	5.6%	4.6%	1.5%
	25-34	Total	58	40	0
		Percent	29.4%	20.3%	.0%
	35-44	Total	23	12	2
		Percent	11.7%	6.1%	1.0%
	45-59	Total	7	1	0
		Percent	3.6%	.5%	.0%
	>59	Total	1	1	0
		Percent	.5%	.5%	.0%

(n=197)

Table 11a revealed a statistically significant relationship between age and using video conferencing equipment. Specifically, the chi-square value was 34.182 and the p-value was .001.

Table 11a

Chi-Square for Respondent Age and Using Video Conferencing Equipment

	Chi-square Value	df	Sig.
Pearson Chi-Square	34.182	12	.001

(n=196)

Frequency Missing = 1

Table 11b revealed that of respondents confident with using video conferencing equipment, approximately 40% were non-traditional aged students, with the majority (31.1%) between the ages of 25 and 34. Approximately 15% of traditional aged students reported being less than confident with using video conferencing equipment.

Table 11b
Crosstab for Respondent Age and Using Video Conferencing Equipment

			Using Video Conferencing Equipment		
			Confident	Somewhat Confident	Not Confident
Age	<18	Total	2	0	1
		Percent	1.0%	.0%	.5%
	18-21	Total	14	8	4
		Percent	7.1%	4.1%	2.0%
	22-24	Total	5	9	9
		Percent	2.6%	4.6%	4.6%
	25-34	Total	61	22	15
		Percent	31.1%	11.2%	7.7%
	35-44	Total	17	8	11
		Percent	8.7%	4.1%	5.6%
	45-59	Total	1	1	6
		Percent	.5%	.5%	3.1%
	>59	Total	0	0	2
		Percent	.0%	.0%	1.0%

(n=196)
Frequency Missing = 1

Table 12a revealed a statistically significant affiliation between age and using a Web camera. Specifically, the chi-square value was 44.605 and the p-value was .000.

Table 12a

Chi-Square for Respondent Age and Using a Web Camera

	Chi-square Value	df	Sig.
Pearson Chi-Square	44.605	12	.000

(n=196)
Frequency Missing = 1

Table 12b revealed that the majority of respondents confident with using a Web camera (54.6%) were non-traditional aged students, with 42.9% between the ages of 25 and 34. However, less than 10% of traditional aged students reported being less than confident with using a Web camera.

Table 12b

Crosstab for Respondent Age and Using a Web Camera

			Using a Web Camera		
			Confident	Somewhat Confident	Not Confident
Age	<18	Total	2	0	1
		Percent	1.0%	.0%	.5%
	18-21	Total	19	4	3
		Percent	9.7%	2.0%	1.5%
	22-24	Total	13	5	5
		Percent	6.6%	2.6%	2.6%
	25-34	Total	84	2	12
		Percent	42.9%	1.0%	6.1%
	35-44	Total	22	7	7
		Percent	11.2%	3.6%	3.6%
	45-59	Total	1	1	6
		Percent	.5%	.5%	3.1%
	>59	Total	0	1	1
		Percent	.0%	.5%	.5%

(n=196)

Frequency Missing = 1

Table 13a revealed a statistically significant relationship between GPA and basic computer maintenance. Specifically, the chi-square value was 17.245 and the p-value was .028.

Table 13a
Chi-Square for Respondent GPA and Basic Computer Maintenance

	Chi-square Value	df	Sig.
Pearson Chi-Square	17.245	8	.028

(n=197)

Table 13b revealed the majority of respondents (with a high school GPA of at least 3.0 (53.8%) were confident with performing basic computer maintenance. Roughly 20% of respondents with a GPA of between 2.0-3.0 reported being confident with performing basic computer maintenance.

Table 13b
Crosstab for Respondent GPA and Basic Computer Maintenance

			Basic Computer Maintenance		
			Confident	Somewhat Confident	Not Confident
High School Grade Point Average (GPA)	3.0-4.0	Total	106	16	1
		Percent	53.8%	8.1%	.5%
	2.0-3.0	Total	40	2	4
		Percent	20.3%	1.0%	2.0%
	1.0-2.0	Total	4	1	0
		Percent	2.0%	.5%	.0%
	Below 1.0	Total	1	0	0
		Percent	.5%	.0%	.0%
	Unknown	Total	14	7	1
		Percent	7.1%	3.6%	.5%

(n=197)

Table 14a revealed a statistically significant association between GPA and basic troubleshooting skills. Specifically, the chi-square value was 20.340 and the p-value was .009.

Table 14a

Chi-Square for Respondent GPA and Basic Troubleshooting Skills

	Chi-square Value	df	Sig.
Pearson Chi-Square	20.340	8	.009

(n=196)
Frequency Missing = 1

Table 14b revealed that the majority of respondents with a high school GPA of at least 3.0 (61.7%) were at least somewhat confident with basic troubleshooting skills. Approximately 16% of respondents with a GPA of between 2.0-3.0 reported being confident with basic troubleshooting skills.

Table 14b

Crosstab for Respondent GPA and Basic Troubleshooting Skills

			Basic Troubleshooting Skills		
			Confident	Somewhat Confident	Not Confident
High School Grade Point Average (GPA)	3.0-4.0	Total	77	44	1
		Percent	39.3%	22.4%	.5%
	2.0-3.0	Total	31	15	0
		Percent	15.8%	7.7%	.0%
	1.0-2.0	Total	5	0	0
		Percent	2.6%	.0%	.0%
	Below 1.0	Total	1	0	0
		Percent	.5%	.0%	.0%
	Unknown	Total	13	6	3
		Percent	6.6%	3.1%	1.5%

(n=196)

Frequency Missing = 1

Table 15a revealed a statistically significant association between GPA and using video conferencing equipment. Specifically, the chi-square value was 22.146 and the p-value was .005.

Table 15a

Chi-Square for Respondent GPA and Using Video Conferencing Equipment

	Chi-square Value	df	Sig.
Pearson Chi-Square	22.146	8	.005

(n=196)

Frequency Missing = 1

Table 15b revealed that the majority of respondents (50%) at least somewhat confident with using video conferencing equipment also held a high school GPA of at least at 3.0. Approximately 13% of respondents with a GPA of between 3.0 or higher reporting not being confident with using video conferencing equipment.

Table 15b

Crosstab for Respondent GPA and Using Video Conferencing Equipment

			Using Video Conferencing Equipment		
			Confident	Somewhat Confident	Not Confident
High School Grade Point Average (GPA)	3.0-4.0	Total	76	21	26
		Percent	38.8%	10.7%	13.3%
	2.0-3.0	Total	16	18	11
		Percent	8.2%	9.2%	5.6%
	1.0-2.0	Total	2	2	1
		Percent	1.0%	1.0%	.5%
	Below 1.0	Total	1	0	0
		Percent	.5%	.0%	.0%
	Unknown	Total	5	7	10
		Percent	2.6%	3.6%	5.1%

(n=196)

Frequency Missing = 1

Table 16a revealed a statistically significant relationship between Sex and working with files. Specifically, the chi-square value was 6.007 and the p-value was .050.

Table 16a
Chi-Square for Respondent Sex and Working with Files

	Chi-square Value	df	Sig.
Pearson Chi-Square	6.007	2	.050

(n=195)
Frequency Missing = 2

Table 16b revealed that the majority of male (26.2%) and female (62.1%) respondents reported being confident with working with files. No males reported not being confident with working with files, while one (.5%) of females noted not being confident with working with files.

Table 16a
Crosstab for Respondent Sex and Working with Files

			Working with Files		
			Confident	Somewhat Confident	Not Confident
Sex	Male	Total	51	12	0
		Percent	26.2%	6.2%	.0%
	Female	Total	121	10	1
		Percent	62.1%	5.1%	.5%

(n=195)
Frequency Missing = 2

Table 17a revealed a statistically significant relationship between Sex and basic computer maintenance. Specifically, the chi-square value was 9.658 and the p-value was .008.

Table 17a
Chi-Square for Respondent Sex and Basic Computer Maintenance

	Chi-square Value	df	Sig.
Pearson Chi-Square	9.658	2	.008

(n=195)
Frequency Missing = 2

Table 17b revealed that the majority of male (29.7%) and female (54.4%) respondents reported being confident with performing basic computer maintenance. However, 13% of females reported being less than confident with performing basic computer maintenance, while only 2.5% of males reporting being less than confident performing basic computer maintenance.

Table 17b
Crosstab for Respondent Sex and Basic Computer Maintenance

			Basic Computer Maintenance		
			Confident	Somewhat Confident	Not Confident
Sex	Male	Total	58	2	3
		Percent	29.7%	1.0%	1.5%
	Female	Total	106	24	2
		Percent	54.4%	12.3%	1.0%

(n=195)
Frequency Missing = 2

Table 18a revealed a statistically significant relationship between Sex and accessing Web-based course materials. Specifically, the chi-square value was 13.119 and the p-value was .001.

Table 18a

Chi-Square for Respondent Sex and Accessing Web-based Course Materials

	Chi-square Value	df	Sig.
Pearson Chi-Square	13.119	2	.001

(n=195)
Frequency Missing = 2

Table 18b revealed that the majority of male (24.7%) and female (62.9%) respondents reported being confident with accessing Web-based course materials. However, roughly 8% of males reported being less than confident with accessing Web-based course materials, while less than 5% of females reporting being less than confident with accessing Web-based course materials.

Table 18b

Crosstab for Respondent Sex and Accessing Web-based Course Materials

			Accessing Web-based Course Materials		
			Confident	Somewhat Confident	Not Confident
Sex	Male	Total	48	15	0
		Percent	24.7%	7.7%	.0%
	Female	Total	122	8	1
		Percent	62.9%	4.1%	.5%

(n=195)
Frequency Missing = 2

Lifestyle Variables

The second research question asked what are the post-admission lifestyle variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment? As defined by the literature, lifestyle variables include employment status, family obligations, and finances. Tables 19 – 23 and Figures 10 – 11 are based on frequency statistics that were used to present the data gathered from the lifestyle section of the survey (items #1-8).

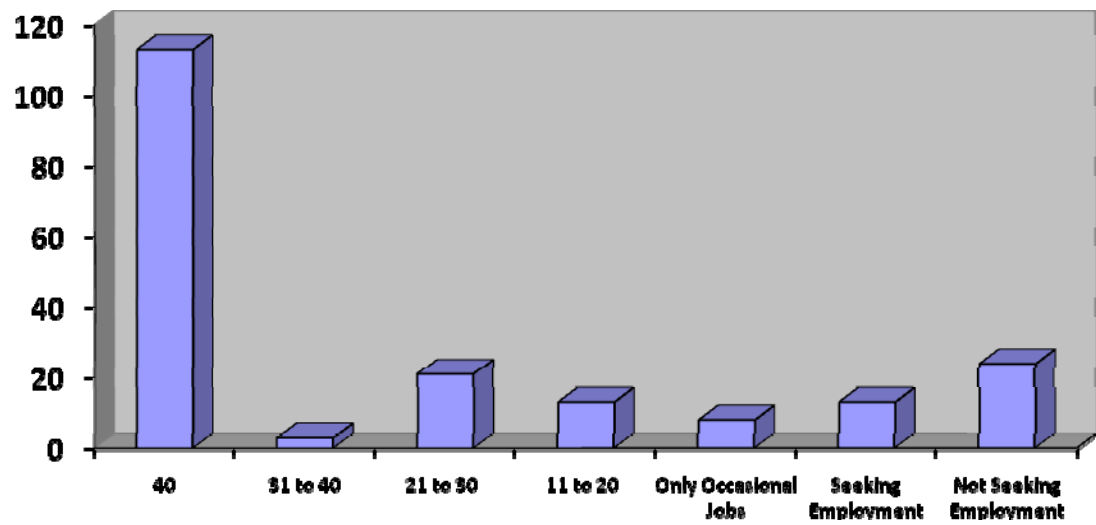
Employment Status of Respondents

The distributions for the employment status (n=195 with two cases missing) revealed that 113 (57.4%) were employed full-time, while 37 (18.8%) worked at least 11 hours per week while enrolled. The data exhibited in Table 19 and Figure 10 are the summarized results as reported by the participants.

Table 19
Employment Status of Respondents

Hrs per week	Frequency	Percent	Cumulative Percent
40	113	57.4	57.9
31 to 40	3	1.5	81.0
21 to 30	21	10.7	79.5
11 to 20	13	6.6	68.7
Only Occasional Jobs	8	4.1	62.1
Seeking Employment	13	6.6	100.0
Not Seeking Employment	24	12.2	93.3

(n=195)
Frequency Missing = 2



(n=195)
Frequency Missing = 2

Figure 10. Employment status of respondents.

Other data (n=197) revealed that one of the leading reasons for enrolling was the opportunity for respondents to work while attending college (25.4%). Other leading reasons included the convenience of courses offerings via distance learning (39.6%) and good chance of personal success (17.8%). The data exhibited in Table 20 is the summarized results as reported by the participants.

Table 20
Respondents Primary Reason for Enrolling in Non-Proximal Distance Learning Programs

Reason for Enrolling	Frequency	Percent	Cumulative Percent
Convenience	78	39.6	39.6
Could Work while Attending	50	25.4	93.9
Good Chance of Success	35	17.8	68.5
Low Cost	15	7.6	50.8
Reputation	7	3.6	43.1
Availability of Funding	5	2.5	96.4
Advice of Parents/Relatives	4	2.0	98.5
Advice of HS Personnel	3	1.5	100.0

(n=197)

Family Obligations of Respondents

For this study, family obligations were associated with the number of dependent children (Bean & Metzner, 1985). The distributions for the relationship status (n=195 with two cases missing) of participants revealed that 58 (29.4%) had no children, while 137 (69.5%) had at least one dependent child. The data exhibited in Tables 21a & 21b and Figure 11 are the summarized results as reported by the participants.

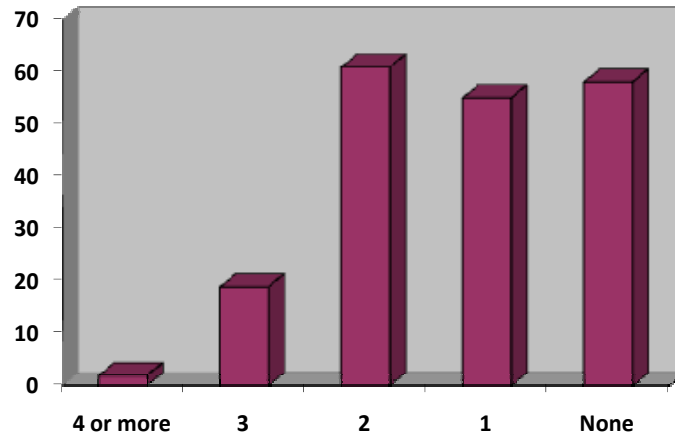
Table 21a

Number of Dependent Children of Respondents

No. of Children	Frequency	Percent	Cumulative Percent
4 or more	2	1.0	100.0
3	19	9.6	99.0
2	61	31.0	89.2
1	55	27.9	57.9
None	58	29.4	29.7

(n=195)

Frequency Missing = 2



(n=195)
Frequency Missing = 2

Figure 11. Number of dependent children of respondents.

Further analysis of the data (n=167 with thirty cases missing) as revealed in Table 21b shows that 87 (24.5%) of respondents had a child aged birth- 5 years of age, while 75 (21.1%) had a child aged 6-17. Five (1.4%) respondents had a child that was 18 years of age or older.

Table 21b
Distribution of Respondents' Children

	Frequency	Percent	Cumulative Percent
Children (birth-5)	87	24.5%	45.5%
Children (6-17)	75	21.1%	39.3%
Children (>18)	5	1.4%	2.6%

(n=167)
Frequency Missing = 30

Finances of Respondents

The distribution of respondent's finances (n=197) revealed that 117 (59.4%) noted that employment while attending college was a major source of funds for their college education. Others noted education grants (49.7%), income of spouse/significant other (42.6%), scholarships (33.5%), and loans (29.4%) as major sources of funding. The data exhibited in Table 22 are the summarized results as reported by the participants.

Table 22
Finances of Respondents

Item	Major Source	Minor Source	Not a Source
Educational Grants	98 (49.7%)	42 (21.3%)	57 (28.9%)
Spouse/Sig Other Income	84 (42.6%)	35 (17.8%)	78 (39.6%)
Scholarships	66 (33.5%)	36 (18.3%)	94 (47.7%)
Loans	58 (29.4%)	32 (16.2%)	107 (54.3%)
Employer Reimbursement	31 (6.6%)	17 (8.6%)	167 (84.8%)
Parents, Relatives or Friends	29 (14.7%)	22 (11.2%)	146 (74.1%)
Personal Savings	22 (11.2%)	81 (41.1%)	94 (47.7%)
Veteran's Benefits	17 (8.6%)	20 (10.2%)	160 (81.2%)
Summer Employment	15 (7.6%)	33 (16.8%)	149 (75.6%)
Employment while Attending	117 (59.4%)	30 (15.2%)	50 (25.4%)

(n=197)

Other Significant Findings Regarding Lifestyle Variables

Additional data revealed (n=172 with 25 cases missing) that personal financial problems (18.6%), family responsibilities (24.7%) and job-related responsibilities (24.7%) were problems experienced by respondents while enrolled. The data exhibited in Table 23 are the summarized results as reported by the participants. No other statistically significant relationship was found among other variables associated with post-admission lifestyle variables.

Table 23
Problems Experienced by Respondents while Enrolled

	Responses		Percent of Cases
	N	Percent	
Family Responsibilities	122	24.7%	70.9%
Cost of Dependent Care	30	6.1%	17.4%
Finding Dependent Care	27	5.5%	15.7%
Personal Financial Problems	92	18.6%	53.5%
Cost/Availability of Materials	44	8.9%	25.6%
Cost of Computer	30	6.1%	17.4%
Health-Related Problems	14	2.8%	8.1%
Medical Expenses	13	2.6%	7.6%
Job-Related Responsibilities	122	24.7%	70.9%

(n=172)
Frequency Missing = 25

Student Perceptions Regarding Institutional Variables

The third research question asked what are the post-admission student perceptions regarding institutional variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment? As defined by the literature, student perceptions regarding institutional variables included academic integration, commitment, and technology access. Tables 24 – 29 and Figures 12a – 14b and are based on frequency statistics and Pearson's correlation that were used to present data gathered from the student perceptions regarding instructional variables section of the survey (items #9-15). No other statistically significant relationship was found among other variables associated with post-admission student perceptions regarding institutional variables.

Academic Integration of Respondents

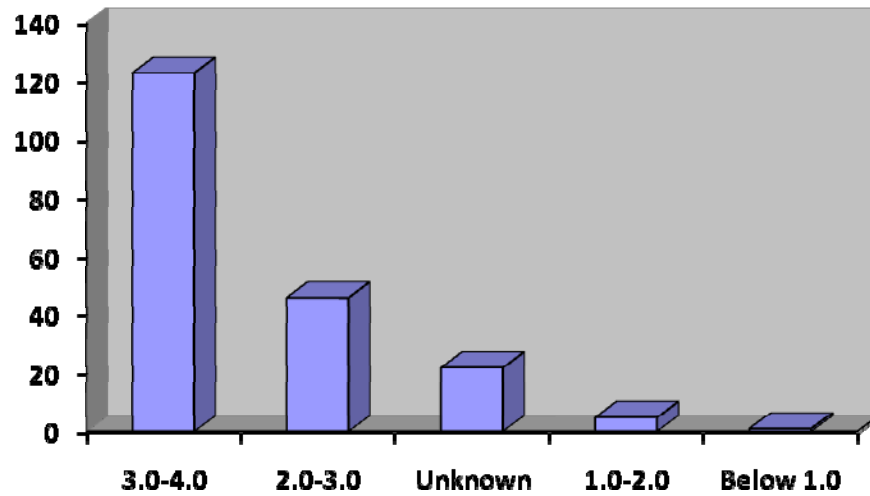
For this study, academic integration involved high school and college GPA as well as academic advising (Pascarella & Chapman, 1983; Tinto, 1975). The sample (n=197) revealed that the high school GPA of 123 (62.4%) respondents was between 3.0 and 4.0, while 46 (23.4%) was between 2.0-3.0, and 28(14.2) were below 2.0 or unknown. The current college GPA of 139 (70.6%) respondents was between 3.0 and 4.0, while 48 (24.4%) were between 2.0 and 3.0. None of the respondents reported a current GPA of below 1.0. The data exhibited in Tables 24 – 25 and Figures 12a and 12b and are the summarized results as reported by the participants.

Table 24

Distribution of Respondents' High School GPA

HS GPA	Frequency	Percent	Cumulative Percent
3.0-4.0	123	62.4	62.4
2.0-3.0	46	23.4	85.8
Unknown	22	11.2	100.0
1.0-2.0	5	2.5	88.3
Below 1.0	1	.5	88.8

(n=197)



(n=197)

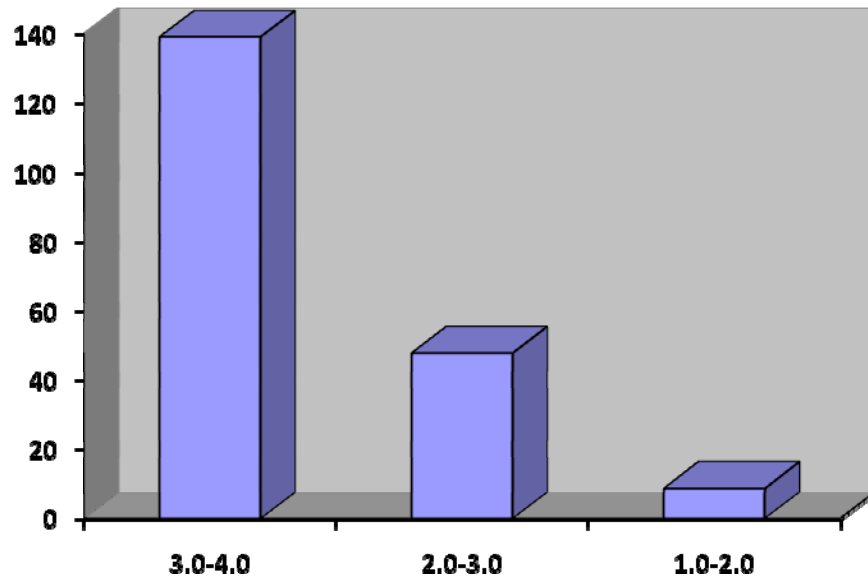
Figure 12a. Distribution of respondents' high school GPA.

Table 25

Distribution of Respondents' Current College GPA

Current College GPA	Frequency	Percent	Cumulative Percent
3.0-4.0	139	70.6	70.9
2.0-3.0	48	24.4	95.4
1.0-2.0	9	4.6	100.0

(n=196)
Frequency Missing = 1



(n=196)
Frequency Missing = 1

Figure 12b. Distribution of respondents' current college GPA.

The researcher used Pearson's correlation to further analyze the data. Pearson's correlation is a number between -1 and +1 that measures the degree of association between two variables (Ott & Longnecker, 2001). Correlation values closer to +1 reflect a strong relationship between variables (Ott & Longnecker, 2001). Results revealed a Pearson's correlation coefficient of 0.326 ($p=.01$) between high school GPA and the college GPA of first-year students (see Table 26), indicating a moderate degree of correlation between high school GPA and current college GPA.

Table 26
Correlation of Respondents' High School GPA and Current College GPA

		High School GPA	Current College GPA
High School GPA	Pearson Correlation	1	.326
	Sig. (2-tailed)		.000
	n=	197	196
Current College GPA	Pearson Correlation	.326 *	1 *
	Sig. (2-tailed)	.000	
	n=	196	196

*. Correlation is significant at the 0.01 level (2-tailed).

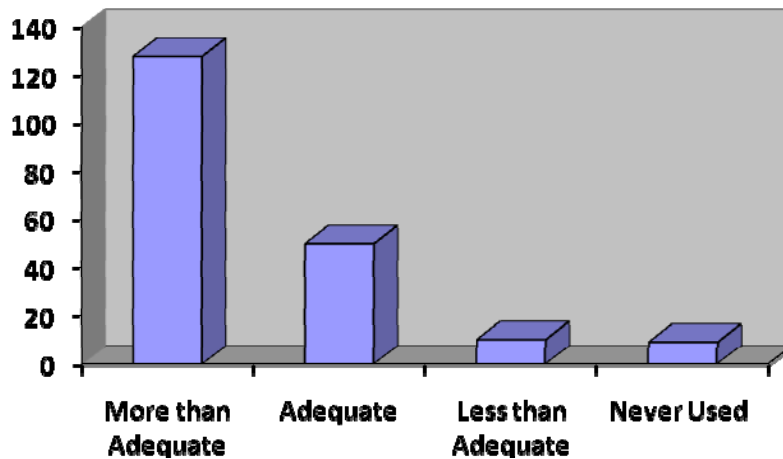
Respondent Perceptions Regarding Academic Advising

Respondent perceptions regarding academic advising distributions (n=197) revealed that 128 (65.0%) believed the academic advising system offered by their institution was more than adequate, while 50 (25.4%) thought that it was adequate. Approximately 5% reported never using the academic advising system at their institution. The data exhibited in Table 27 and Figure 13 are the summarized results as reported by the participants.

Table 27
Respondent Perceptions Regarding Academic Advising

	Frequency	Percent	Cumulative Percent
More than Adequate	128	65.0	65.0
Adequate	50	25.4	90.4
Less than Adequate	10	5.1	95.4
Never Used	9	4.6	100.0

(n=197)



(n=197)

Figure 13. Respondent perceptions regarding academic advising.

Respondent Perceptions Regarding Commitment

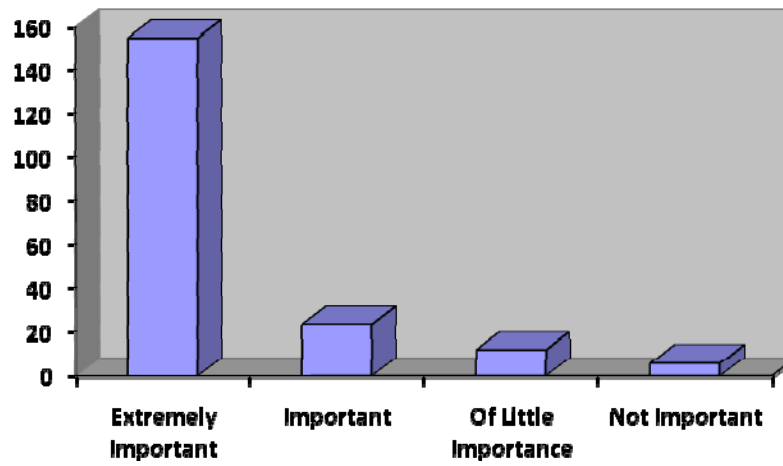
For the purposes of this study, two variables were used to measure commitment, including: institutional commitment and commitment to goal of graduation. Distributions for respondent institutional commitment (n=197) revealed that 155 (78.7%) believed it was important to graduate from their current institution, while less than 10% felt it was of little to no importance to graduate from the institution where they were currently enrolled. Distributions for respondent graduation commitment (n=197) revealed that 172 (87.3%) believed it was important to graduate from any college, while less than 5% felt it was of little to no importance to graduate from any college. The data exhibited in Tables 28a & 28b and Figures 14a & 14b are the summarized results as reported by the participants.

Table 28a

Respondent Perceptions Regarding Institutional Commitment

	Frequency	Percent	Cumulative Percent
Extremely Important	155	78.7	78.7
Important	24	12.2	90.9
Of Little Importance	12	6.1	97.0
Not Important	6	3.0	100.0

(n=197)



(n=197)

Figure 14a. Respondent perceptions regarding institutional commitment.

Table 28b

Respondent Perceptions Regarding Commitment to Graduation

	Frequency	Percent	Cumulative Percent
Extremely Important	172	87.3	87.3
Important	19	9.6	97.0
Of Little Importance	4	2.0	99.0
Not Important	2	1.0	100.0

(n=197)

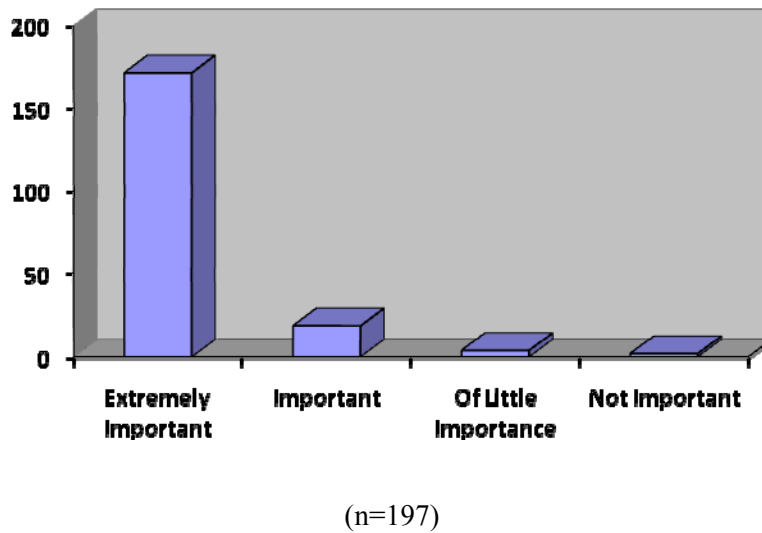


Figure 14b. Respondent perceptions regarding commitment to graduation.

The researcher also used Pearson's correlation to further analyze the data. Person's correlation is a number between -1 and +1 that measures the degree of association between two variables (Ott & Longnecker, 2001). Correlation values closer to +1 reflect a strong relationship between variables (Ott & Longnecker, 2001). Results revealed a Pearson's correlation coefficient of 0.369 ($p=.01$) between respondents perceptions regarding institutional commitment and graduation commitment (see Table 28c), indicating a moderate degree of correlation between institutional commitment and graduation commitment.

Table 28c

Correlation of Respondent Perceptions Regarding Institutional and Graduation Commitment

		Institutional Commitment	Graduation Commitment
Institutional Commitment	Pearson Correlation	1	.369 *
	Sig. (2-tailed)		.000
	n=	197	197
Graduation Commitment	Pearson Correlation	.369 *	1
	Sig. (2-tailed)	.000	
	n=	197	197

*Correlation is significant at the 0.01 level (2-tailed).

Respondent Perceptions Regarding Technology Access

Distributions for respondent perceptions regarding technology access (n=197) revealed that the vast majority of students (over 90%) did have access to technology from either college, home or work. More specifically, over 95% reported having email access from college or home, while over 90% reported having Web-access from college or home and over 80% reported having access to other technologies used in the classroom from college or home. Many students reported having limited access to email, the Web, and classroom technologies from work. The data exhibited in Table 29 are the summarized results as reported by the participants.

Table 29
Respondent Perceptions Regarding Technology Access

Item	Did	Did Not
Email at Home	194 (98.5%)	3 (1.5%)
Email at College	191 (97.0%)	6 (3.0%)
Email at Work	107 (54.3%)	90 (45.7%)
Web Access at Home	193 (98.0%)	4 (2.0%)
Web Access at College	179 (90.9%)	18 (9.1%)
Web Access at Work	122 (61.9%)	75 (38.1%)
Tech Access at College	166 (84.3%)	31 (15.7%)
Tech Access at Home	160 (81.2%)	37 (18.8%)
Tech Access at Work	95 (48.2%)	102 (51.8%)

(n=197)

Summary

This chapter has presented the statistical results obtained from the study. Frequency statistics, cross tabulations, and Pearson's Chi-square were the statistical tests used to analyze the data. The results of this study revealed pre- and post-admission characteristics of retained students enrolled in non-proximal distance learning courses within a public, 2-year college environment. Pre-admission characteristics included student attributes, such as age, sex, race/ethnicity, GPA, and technology experience. Post-admission characteristics included lifestyle (i.e., employment status, family obligations, and finances) and student perceptions regarding institutional variables (i.e., academic integration, commitment, and technology access).

The next chapter provides a discussion of the study findings including implications for 2-year college administrators. The chapter will conclude with recommendations for future research.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This final chapter reviews the main points of the study and provides an explanation of the major findings. Implications for college-level administrators and for future research are also presented.

Summary of Findings

This purpose of this study was to explore characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. To achieve this goal, the researcher investigated: (a) pre-admission student attributes; (b) post-admission lifestyle variables; and (c) post-admission student perceptions regarding institutional variables.

This was a descriptive, quantitative study. The method was appropriate for this study since the investigator was looking to reveal characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment and the frequency with which these characteristics occurred (Polit & Hungler, 1999). This form of research was also used to describe what already exists in order to identify variables that might be of interest in future investigations (Polit & Hungler, 1999).

To address the three research questions, the researcher used a Web-based, cross-sectional survey. The survey instrument was designed by the researcher based on past surveys administered by various sources. The composite survey, Survey of Retained

First-Year Students Enrolled in Non-Proximal Distance Learning Programs within a Public, 2-Year College Environment (see Appendix D), was pilot tested among students currently enrolled in distance learning programs at both the graduate and undergraduate level. The pilot test addressed reliability and validity concerns, as well as potential technical issues with the survey. As a part of the pilot and full study, the researcher worked with a gatekeeper at each institution to disseminate the survey via email to identified students in the spring of 2009.

All of the participants in the full study were retained, first-year students enrolled in non-proximal distance learning programs within one of five identified 2-year community colleges in Virginia. The specific institutions were chosen, because they offered a diverse mix of degree programs and delivery methods.

The entire population of identified students (N=536) was surveyed during the spring 2009. Out of the 536 surveys, 197 were returned, yielding a response rate of 37%. All surveys were usable.

Eleven variables were used in this study. Variables were separated into three categories as follows: (a) student attributes; (b) lifestyle variables; and (c) student perceptions regarding institutional variables. Student attributes included: (a) age, (b) sex, (c) race/ethnicity, (d) GPA, and (e) technology experience. Lifestyle variables consisted of (a) employment status, (b) family obligations, and (c) finances. Student perceptions regarding institutional variables included: (a) academic integration, (b) commitment, and (c) technology access. The researcher used a 95% confidence interval.

Frequency and descriptive statistics were used to describe the data gathered from each survey question. Cross tabulations were also used to show interrelationships between variables within each grouping of variables (i.e., student attributes, lifestyle variables, and student perceptions regarding institutional variables). Pearson's Chi-square statistics was calculated as a part of the cross tabulations. As used in this study, Pearson's Chi-square tests whether two variables are independent of each other. A Chi-square probability of less than or equal to 0.05 implies a relationship between the variables. Three research questions guided this study, as follows:

- a. What are the pre-admission student attributes of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?

Frequency distributions and cross tabulations were used to answer this question. Findings revealed that the majority of respondents were white/Caucasian (86.3%), female (67%), non-traditional aged students (73.6%). Most students (62.4%) reported a high school GPA between 3.0 and 4.0.

Over 90% of participants reported using the Internet on a daily basis. More than 95% were confident using the keyboard, accessing and navigating the Internet, using Internet-based search engines, and sending and receiving email.

Most (90%) respondents reported that they were at least somewhat confident with working with files, resolving common error messages while surfing the Web, performing basic computer maintenance, troubleshooting, using software, and accessing Web-based

materials. However, an average of 21% of respondents revealed that they were not confident using a Web-camera or using video conferencing equipment.

Pearson's Chi-square statistic revealed a statistically significant relationship between basic computer maintenance and the following variables (a) age; (b) GPA; and (c) sex. A statistically significant association between using video conferencing equipment and the following variables was also revealed: (a) age; and (b) GPA.

Based on Pearson's Chi-square values, a statistically significant relationship between age and resolving common errors while surfing the Web as well as age and using a Web camera was discovered. A statistically significant association between GPA and basic troubleshooting skills was also revealed. Finally, a statistically significant relationship between sex and accessing Web-based course materials as well as sex and working with files was found.

- b. What are the post-admission lifestyle variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?

Frequency distributions were used to answer this question. Two survey questions (items #5 and 6) allowed respondents to select multiple answers. In order to create accurate frequency tables for these questions, the researcher coded the multiple responses for each question as a multiple category set.

Findings revealed that the majority of respondents (57.4%) were employed on a full-time basis while enrolled. Roughly 19% worked part-time while enrolled. Approximately 59% of the participants noted that employment while attending college

was a major source of funds for their education. To this end, as noted by respondents, one of the leading reasons for enrolling in the non-proximal distance learning program was the opportunity to work while attending college (25.4%). Other significant sources included: education grants (49.7%), income of spouse/significant other (42.6%), scholarships (33.5%), and loans (29.4%).

Additional data revealed common problems experienced by respondents while enrolled. These problems included job-related responsibilities (24.7%), family responsibilities (24.7%), and personal financial problems (18.6%). Approximately 70% of participants also reported having at least one dependent child. Of these, 45.6% reported having a child under the age of 18 living in the household.

- c. What are the post-admission student perceptions regarding institutional variables of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment?

Frequency distributions were used to answer this question. Findings revealed that most respondents (62.4%) had a high school GPA of 3.0 or above and a current college GPA (70.6%) above 3.0. Further analysis of the data through the use of Pearson's correlation revealed a correlation coefficient of 0.326 ($p=.01$), indicating a statistically significant relationship between high school GPA and the GPA of first-year students.

The vast majority of respondents (90.4%) believed the academic advising system offered by their institution was at least adequate. Less than 5% of respondents believed the academic advising system was less than adequate.

Most respondents (78.7%) believed it was important to graduate from their current institution and 87.3% believed it was important to graduate from any college. Further analysis of the data through the use of Pearson's correlation revealed a correlation coefficient of 0.369 ($p=.01$), indicating a statistically significant relationship between respondents' perceptions regarding institutional commitment and graduation commitment.

Findings also revealed that the majority of students (over 90%) had access to technology from either college, home or work and nearly all (95%) reported having email access from college or home. Over 80% reported having access to other technologies used in the classroom from college or home. However, many (approximately 45%) reported having limited access to email, the Web, and classroom technologies from work.

Conclusions of the Study

This study was designed to explore characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. The researcher investigated: (a) pre-admission student attributes; (b) post-admission lifestyle variables; and (c) post-admission student perceptions regarding institutional variables. Subjects were students who were enrolled in one of five 2-year colleges in Virginia.

Quantitative data were collected through the use of a Web-based survey tool. Findings from the data revealed commonalities among students as related to student attributes, lifestyle variables and student perceptions. Three major conclusions emerged from this study and are grouped into three categories: (a) pre-admission student attributes;

(b) post-admission lifestyle variables; (c) post-admission student perceptions regarding institutional variables.

Pre-Admission Student Attributes

In this study, pre-admission characteristics of subjects were categorized as student attributes. Student attributes included: (a) age, (b) sex, (c) race/ethnicity, (d) GPA, and (e) technology experience. Frequency distributions generated in this study revealed that the majority of retained, first-year students enrolled in non-proximal distance learning programs within a 2-year college were non-traditional-aged, white females, with a high GPA. Subjects were also found to have technology experience.

Past studies have linked student attributes with retention (Bailey et al., 2005; Bean & Metzner, 1985; 2001; Cofer & Somers; 2000; Makuakane-Drechsel & Hagedorn, 2000; Moore et al, 2002; Muse, 2003; Valasek, 2001). The findings from this research support these past studies.

Post-Admission Lifestyle Variables

In this study, lifestyle variables were one category of post-admission characteristics. Lifestyle variables included: (a) employment status, (b) family obligations, and (c) finances. Frequency distributions from this study revealed that the majority of retained, first-year students enrolled in non-proximal distance learning programs:

- a. Were employed on a full-time basis;
- b. Acknowledged that employment while attending college as well as financial aid (i.e., grants, loans, etc...) were major sources of funding;

- c. Reported having dependent children under the age of 18 living in the household; and
- d. Experienced problems related to job, family and personal finances while enrolled.

Several studies have linked lifestyle variables with retention (Bean & Metzner, 1985; Carr, 2000; Cohen & Brawer, 2003; Kemp, 2002; Moore et al., 2002). The findings from this research support these past studies.

Post-Admission Student Perceptions Regarding Institutional Variables

In this study, student perceptions' regarding institutional variables was a category of post-admission characteristics. Variables included: (a) academic integration, (b) commitment and (c) technology access. Frequency distributions from this study revealed that the majority of retained first-year students enrolled in non-proximal distance learning programs:

- a. Had a high school and college GPA of above 3.0;
- b. Perceived the institutional academic advising system to be more than adequate;
- c. Believed it was important to graduate from their current institution;
- d. Believed it was important to graduate from any institution;
- e. Had access to technology from college or home. However, almost half reported having limited access to technology from work.

Past research has linked student perceptions regarding institutional variables to retention (Ashburn, Bartlett & Wolverston, 2006; Bean & Metzner, 1985; Pascarella &

Chapman, 1983; Prospero & Vohra-Gupta, 2007; Thomas, 2000; Tinto, 1975). The findings from this research support these past studies.

Implications and Recommendations for Future Research

The findings of this study have implications for 2-year college level administrators seeking to establish and/or maintain non-proximal distance learning programs. The recommendations for future research as identified by the investigator are intended to encourage further inquiry.

Implications

This study sought to discover pre- and post-admission characteristics among retained, first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. As student demand for non-proximal distance learning programs increases, student retention issues may also intensify. Having an understanding of pre- and post-admission characteristics of retained, first-year students as presented in this study will assist administrators with the planning and implementation of non-proximal distance learning programs to help improve student retention. More specifically, administrators should objectively assess and compare demographically the entering student population to the retained student population of those enrolled in non-proximal distance learning programs over a period of time. This may spark conversations regarding diversity, technology access, and technology experience, which can encourage administrators to provide greater resources in the form of programs and services to address the specific needs of first-year students enrolled in non-proximal distance learning programs in order to increase the student retention rates. Programs and services

may include orientation sessions, continual training and support, and mentoring programs that help students become familiar with the distance learning environment and classroom expectations.

In some instances, institutions may need to reconsider admission standards for those students interested in enrolling in non-proximal distance learning programs. Requiring students with demanding lifestyles, lower high school GPAs, financial issues, inadequate technology experience, and/or limited access to technology to show commitment to the institution and to obtaining a degree by successfully completing a series of preparatory courses taught in a distance learning environment prior to acceptance into the non-proximal distance learning program may help to improve student retention rates.

Finally, administrators must consider the financial repercussions. Institutions expend a considerable amount of resources recruiting students and developing programs to meet the student demand. Those students that leave the institution without completing a degree create an institutional loss of investment. However, understanding the pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs will help administrators reallocate resources in a way that provides for specific programs and strategies to address the needs of first-year distance learning students and help to improve upon student retention rates and student success.

Recommendations for Future Research

While this research study effectively identified pre- and post-admission characteristics of retained first year students enrolled in non-proximal distance learning

programs within public, 2-year colleges, research in this area must be continued to further understand variables that influence the retention of such students. Below are suggestions for future research.

Replicate this study using a sample from a different state or region. This study was delimited to first-year retained students enrolled in non-proximal distance learning programs among five colleges within the Virginia Community College System (VCCS). As such, the results may not be relevant or generalizable to retained, first-year students enrolled in non-proximal distance learning programs within other 2-year colleges. Additional research to include samples from other 2-year colleges within and outside of the state of Virginia will help to further validate findings from this research study and possibly generate new information about different populations.

Conduct a comparative study between retained and non-retained first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges. This was an exploratory study with the purpose of identifying pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges. Expanding the study to include a comparison of non-retained students to retained students may help to identify factors that directly impact or cause the retention of first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges.

Expand the study variables to include other student characteristics and characteristics of faculty. This study only explored eleven student characteristics of retained first-year students enrolled in non-proximal distance learning programs within

public, 2-year colleges. However, a review of the literature revealed a number of other factors that influence a first-year student's persistence to second semester, including student attitudes, motivation, learning styles, perceived difficulty of content, outside encouragement, opportunity for transfer, and social isolation (Bean & Betzner, 1985; Bennett, 2003; Khan, 2005; Pascarella & Terenzini, 2005; Rovai, 2000; Tinto, 1993). Literature also notes the impact of faculty characteristics, including interaction between students and faculty, and teaching strategies (Moore, Muilenburg & Berge, 2001; Roach & Lemasters, 2006; Willis, 1993). Conducting research that includes these variables along with the variables within this study can expand the understanding of characteristics associated with student retention of first-year students enrolled within non-proximal distance learning programs within public, 2-year colleges.

Conduct a study that includes qualitative data. This was a quantitative study. Conducting a qualitative or mixed-methods study that includes the use of interviews and/or focus groups will help to gain a more in-depth viewpoint on specific issues and characteristics influencing the retention of retained first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges.

Conduct a study that explores the association between administrators and students enrolled in non-proximal distance learning programs within public, 2-year colleges. As a part of this study, the researcher asked participants to offer suggestions to administrators to help encourage the retention of first-year students enrolled in non-proximal distance learning programs. Only 31 (16%) respondents provided an answer to the related survey question. However, no significant statements were made. Further study

is necessary to determine if the relationship between first-year students and administrators has a direct impact on the retention of first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges.

Conclusion

As discussed in this study, distance learning plays a vital role in higher education. At present, with new technologies emerging daily and the growing student demand for more flexibility in course scheduling, 2-year college administrators are faced with the decision to offer non-proximal distance learning programs. However, reportedly student retention rates are lower in distance learning courses than in traditional, face-to-face courses.

This study identified common characteristics among retained first-year students enrolled in non-proximal distance learning courses within a public, 2-year college environment. Understanding these characteristics may help higher education administrators develop and implement resources and strategies to address the needs of first-year students enrolled in non-proximal distance learning programs within public, 2-year colleges. Resources may include student orientation sessions, continuous technology training/support, and mentoring programs specifically designed for the learner involved with non-proximal distance learning programs. These efforts, in turn, may help to improve upon student retention rates and student success as well as reduce the institutional loss of investment. Future research should build on this study to further enhance the body of knowledge associated with college student retention, distance learning, and 2-year colleges within the United States.

APPENDICES

Appendix A

Clemson University Institutional Review Board Approval Letter for Study

From: "Laura Moll" <LMOLL@exchange.clemson.edu>
Subject: Your IRB protocol # IRB2009-081, entitled "Pre- and Post-Admission Factors
Impacting Retention of First-Year Students Enrolled in Non-Proximal Distance
Learning Programs within Public, Two-Year Colleges"
Date: Fri, March 13, 2009 2:58 pm
To: havice@CLEMSON.EDU
Cc: lhillst@CLEMSON.EDU, "Rebecca Alley" <RALLEY@exchange.clemson.edu>

Dear Pam,

The Chair of the Clemson University Institutional Review Board (IRB) validated the protocol identified above using Exempt review procedures and a determination was made on **March 13, 2009**, that the proposed activities involving human participants qualify as Exempt from continuing review under **Category B2**, based on the Federal Regulations (45 CFR 46) *for all research sites with support letters on file with the IRB*. Because my office currently has no research site letters on file, you may not yet begin this study. As we receive the research site letters, however, you may begin collecting data in those schools/organizations with a research site letter on file.

Please remember that no change in this research protocol can be initiated without prior review by the IRB. Any unanticipated problems involving risks to subjects, complications, and/or any adverse events must be reported to the Office of Research Compliance (ORC) immediately. You are requested to notify the ORC when your study is completed or terminated.

Attached are documents developed by Clemson University regarding the responsibilities of Principal Investigators and Research Team Members. Please be sure these are distributed to all appropriate parties.

Good luck with your study and please feel free to contact us if you have any questions. Please use the IRB number and title in all communications regarding this study.

Best,

Laura :-)

Laura A. Moll, M.A., CIP
IRB Administrator
Office of Research Compliance
223 Brackett Hall
Clemson University
Clemson, SC 29634-5704
lmoll@clemson.edu
Phone: 864-656-6460
Fax: 864-656-4475
www.clemson.edu/research/compliance/irb/

Appendix B

Institutional Letters of Support



NORTHWEST FLORIDA STATE COLLEGE

100 College Boulevard • Niceville, FL 32578-1295 • (850) 678-5111 • www.nwfstatecollege.edu

March 25, 2009

Mrs. Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642

Dear Mrs. Hillstock:

This letter is to inform you that we support your research study titled, "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." We understand that this research is under the direction of principle investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University. We are very interested in your efforts and look forward to your sharing the results with us.

I will be working with you to provide our online students' access to your web-based survey. As we discussed, we can provide these all these students with the link to your survey, but we cannot target only first-year online students.

If you have any questions or need further assistance, please contact me at the number below.

Sincerely,

Anne H. Southard, Ed.D.
Associate Dean, Instruction and Educational Services

NWF State College Fort Walton Beach Campus • (850) 863-6500 Chautauqua Center, DeFuniak Springs • (850) 892-8100
Eglin Center, Eglin Air Force Base • (850) 678-1717 Hurlburt Center, Hurlburt Field • (850) 884-6296
Robert L. F. Sikes Education Center, Crestview • (850) 689-7911
"An Equal Access/Equal Opportunity Institution"

April 1, 2009

Mrs. Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642

Dear Mrs. Hillstock:

This letter is to inform you that we understand and support your research study titled, "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." We understand that this research is under the direction of principle investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University. We are very interested in your efforts.

I have authorized Edmond Smith to work with you to provide our distance learning student's access to your web-based survey. He will work with you to ensure that the sample is complete, up-to-date and aligned with the target population. He will also work with you to ensure that all identified students have an equal opportunity to participate in this study.

If you have any questions or need further assistance, please contact Ed Smith: SWCC Institutional Research Office; 276-964-7338; ed.smith@sw.edu.

Sincerely,

A handwritten signature in cursive script that reads "Robert H. Tomlinson".

Robert Tomlinson, Ph.D.
Vice President of Instruction
Southwest Virginia Community College

April 2, 2009

Mrs. Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642

Dear Mrs. Hillstock:

This letter is to inform you that we understand and support your research study titled, "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." We understand that this research is under the direction of principle investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University. We are very interested in your efforts.

My team will to work with you to provide our distance learning student's access to your web-based survey. We will work with you to ensure that the sample is complete, up-to-date and aligned with the target population. We will also work with you to ensure that all identified students have an equal opportunity to participate in this study.

If you have any questions or need further assistance, please me at 540-423-9179 or jmdavis@germanna.edu

Sincerely,



John M. Davis, Ph.D.
Director of Organizational Planning & Assessment
Germanna Community College
2130 Germanna Highway
Locust Grove, VA 22508

April 2, 2009

Mrs. Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642

Dear Mrs. Hillstock:

This letter is to inform you that we understand and support your research study titled, "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." We understand that this research is under the direction of principle investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University. We are very interested in your efforts.

I have authorized Ramona Coveny to work with you to provide our distance learning student's access to your web-based survey. I will work with you to ensure that the sample is complete, up-to-date and aligned with the target population. I will also work with you to ensure that all identified students have an equal opportunity to participate in this study.

If you have any questions or need further assistance, please contact me or Ramona:
P. Rachelle Koudelik-Jones
Coordinator of Institutional Effectiveness
Virginia Western Community College
540-857-6187
pkoudelik-jones@virginiawestern.edu

Ramona Coveny
Coordinator, Distance Learning & Instructional Technology
Virginia Western Community College
540-857-6201
rcoveny@virginiawestern.edu

Sincerely,



Rachelle Koudelik-Jones

April 10, 2009

Mrs. Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642

Dear Mrs. Hillstock:

This letter is to inform you that we understand and support your research study titled, "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." We understand that this research is under the direction of principal investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University. We are very interested in your efforts.

The Office of Institutional Effectiveness will work with you to provide our distance learning student's access to your web-based survey. They will work with you to ensure that the sample is complete, up-to-date and aligned with the target population. They will also work with you to ensure that all identified students have an equal opportunity to participate in this study.

Please feel free to contact me if you have any questions or need further assistance.

Sincerely,

A handwritten signature in black ink that reads "Gary L. Rhodes". The signature is fluid and cursive, with the first name "Gary" and last name "Rhodes" clearly distinguishable.

Gary L. Rhodes, Ed.D.
President
J. Sargeant Reynolds Community College
P.O. Box 85622
Richmond, VA 23285-5622
www.reynolds.edu

May 21, 2009

Mrs. Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642

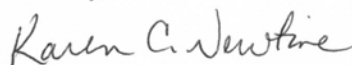
Dear Mrs. Hillstock:

This letter is to inform you that we understand and support your research study titled, "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." We understand that this research is under the direction of principle investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University. We are very interested in your efforts.

Our team will work with you to provide our distance learning student's access to your web-based survey. We will work with you to ensure that the sample is complete, up-to-date and aligned with the target population. We will also work with you to ensure that all identified students have an equal opportunity to participate in this study.

If you have any questions or need further assistance, please contact Dr. Karen Newtzie at knewtzie@rappahannock.edu.

Sincerely,



Karen C. Newtzie, Ph.D.
Interim Director of Institutional Effectiveness
Professor, Communications and Education
Rappahannock Community College
52 Campus Drive
Warsaw, Virginia 22572

804-333-6772
804-333-0106 Fax
knewtzie@rappahannock.edu

Appendix C

Questionnaire Email Cover Letter and Informed Consent Letter

Email Cover Letter for Questionnaire

109 Spirit Mountain Lane
Easley, SC 29642
February 22, 2008

Dear Student,

As a student enrolled in a non-proximal distance learning program within a public, 2-year college system, you have been selected to participate in an important research study. This study seeks to better understand characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment. This increased understanding may help college administrators develop strategies to help first-year distance learning students persist to second year, thus improving student retention rates.

You will be asked to respond to questions regarding student attributes, lifestyle variables and student perceptions regarding institutional variables that influenced your decision to persist to the second semester. Data will be reported in the form of summary statistics, so that no individual identification will be possible.

You are encouraged to participate. Completing the Web-based survey should take approximately 15-20 minutes. Your participation in the study is voluntary, and your responses will be completely confidential.

Please go to the following URL to complete the Web-based survey: [survey link]

Thank you very much for your participation!

Sincerely,

Dr. Pamela A. Havice
Associate Professor
Leadership, Counselor Ed., Human & Org.
Clemson University
(864)656-5121
havice@clemson.edu

Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
(864) 850-2703
lhillst@clemson.edu

Informed Consent Concerning Participation in a Research Study

Clemson University

IDENTIFYING CHARACTERISTICS OF RETAINED FIRST-YEAR STUDENTS ENROLLED IN NON-PROXIMAL DISTANCE LEARNING PROGRAMS WITHIN PUBLIC, 2-YEAR COLLEGES

Description of the research and your participation

You are invited to participate in a research study conducted by doctoral candidate Laurie G. Hillstock, under the direction of principle investigator Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University. The purpose of this research is to better understand characteristics of retained first-year students enrolled in non-proximal distance learning programs within a public, 2-year college environment.

Your participation will involve responding to survey questions regarding student attributes, lifestyle variables and perceptions regarding institutional variables that influenced your decision to persist to second semester.

The amount of time required for your participation will be approximately 15-20minutes.

Risks and discomforts

There are no known risks associated with this research.

Potential benefits

This research may help us to understand characteristics of retained students enrolled in non-proximal distance learning programs with a public, 2-year college system. It may also help college administrators develop strategies to help first-year distance learning students persist to second semester, thus improving student retention rates.

Protection of confidentiality

We will do everything we can to protect your privacy. The information you provide during this research study will be kept confidential. Computer files will be password-protected. No identifying information will be included in the data analysis and reporting stages of the study, thus eliminating the possibility of personally connecting your responses to results.

Voluntary participation

Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way should you decide not to participate or to withdraw from this study.

Contact information

If you have any questions or concerns about this study or if any problems arise, please contact Dr. Pamela A. Havice at Clemson University at 864.656.5121. If you have any questions or concerns about your rights as a research participant, please contact the Clemson University Office of Research Compliance at 864.656.6460.

Appendix D

Survey of Retained First-Year Students Enrolled in Non-Proximal Distance Learning

Programs within a Public, 2-Year College Environment

Survey of Retained First-Year Students Enrolled in Non-Proximal Distance Learning Programs within a Public, 2-Year College Environment

Instructions

Please complete the following survey on pre- and post-admission characteristics that influenced your decision to persist to second semester. This information is confidential and will be used for research purposes. Thank you for your assistance and for your time in completing the survey.

Section I. Lifestyle Variables

1. Which of the following best describes your employment status:
 1. Full-Time (40 or more hours per week)
 2. Part-Time (select from list below)
 - ↙ Only Occasional Jobs
 - ↙ 1 to 10 per week
 - ↙ 11 to 20 per week
 - ↙ 21 to 30 per week
 - ↙ 31 to 40 per week
 3. Unemployed, not seeking employment
 4. Unemployed, seeking employment
2. Current Relationship Status:
 - Never Married
 - Married
 - Widowed
 - Divorced
3. Number of dependent children
 - None
 - 1
 - 2
 - 3
 - 4 or more
4. Where are you living while attending college?
 - Rent Apartment
 - Home with parents
 - Own my home
 - Other (please explain)

5. Which of the following live with you? (Mark all that apply)
- ☐ I live alone
 - ☐ Spouse/significant other
 - ☐ Parent(s)
 - ☐ Friend(s)/roommate(s)
 - ☐ Brother(s)/sister(s)
 - ☐ My child(ren)/stepchild(ren) age birth-5
 - ☐ My child(ren)/stepchild(ren) age 6-17
 - ☐ My child(ren)/stepchild(ren) age 18 and older
 - ☐ Other relative
6. Has any of the following been a problem for you while pursuing your degree program? (Choose all that apply)
- ☐ Finding acceptable child or other dependent (e.g., parent) care
 - ☐ Cost of child or other dependent (e.g., parent) care
 - ☐ Medical expenses
 - ☐ Cost and/or availability of books and related materials
 - ☐ Cost of computer
 - ☐ Personal financial problems
 - ☐ Health-related problems
 - ☐ Family responsibilities
 - ☐ Job-related responsibilities
 - ☐ Other (please explain)
7. What was your primary reason for enrolling within your degree program?
- ☐ Convenience of via distance learning
 - ☐ Good Academic or Vocational Reputation
 - ☐ Low Cost of Attending
 - ☐ Good Chance of Personal Success
 - ☐ Could Work While Attending
 - ☐ Availability of Scholarship or Financial Aid
 - ☐ Advice of Parents or Relatives
 - ☐ Advice of High School Personnel
 - ☐ Other (please explain)

8. Indicate whether each of the following was a major source, a minor source, or not a source of funds for your college education.

	Major Source	Minor Source	Not a Source
Parents, Relatives, or Friends	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Employment While Attending College	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Summer Employment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal Savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spouse/Significant Other Income	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Veteran's Benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Educational Grants (Pell Grants, FSEOG, etc..)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scholarships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Loans (Perkins Loan, Federal Direct Loan, etc..)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Reimbursement by Employer	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Section II. Student Perceptions Regarding Institutional Variables

9. How important is it for you to graduate from the college you are currently enrolled?

- ☐ Extremely important
- ☐ Important
- ☐ Little importance
- ☐ Not at all important

10. How sure are you that you made the right choice in attending this college?

- ☐ Definitely made the right choice
- ☐ Made the right choice
- ☐ Made the wrong choice
- ☐ Definitely made the wrong choice

11. How important is it for you to graduate from any college?

- ☐ Extremely important
- ☐ Important
- ☐ Little importance
- ☐ Not at all important

12. How well does the academic advising system currently offered by this institution meet your needs?

- More Than Adequately
- Adequately
- Less Than Adequately
- Never use the academic advising system

13. Indicate if you did or did not have each of the following during your first year within the program:

	Did	Did Not
Email address through the college	<input type="radio"/>	<input type="radio"/>
Email address at home	<input type="radio"/>	<input type="radio"/>
Email address at work	<input type="radio"/>	<input type="radio"/>
Web access through the college	<input type="radio"/>	<input type="radio"/>
Web access at home	<input type="radio"/>	<input type="radio"/>
Web access at work	<input type="radio"/>	<input type="radio"/>
Access to other technologies used in the classroom through the college	<input type="radio"/>	<input type="radio"/>
Access to other technologies used in the classroom at home	<input type="radio"/>	<input type="radio"/>
Access to other technologies used in the classroom at work	<input type="radio"/>	<input type="radio"/>

14. Indicate which of the following positively and negatively impacted your decision to persist to second semester:

	Positively	Negatively
Availability of college-level resources at a distance	<input type="radio"/>	<input type="radio"/>
Availability of technology	<input type="radio"/>	<input type="radio"/>
Access to technology	<input type="radio"/>	<input type="radio"/>
Delivery of course content (via distance learning)	<input type="radio"/>	<input type="radio"/>
Interaction with faculty	<input type="radio"/>	<input type="radio"/>
Interaction with other students	<input type="radio"/>	<input type="radio"/>
Personal learning style	<input type="radio"/>	<input type="radio"/>
Personal motivation	<input type="radio"/>	<input type="radio"/>
Personal study habits	<input type="radio"/>	<input type="radio"/>

15. What suggestions would you offer to administrators to help encourage the retention of first year students enrolled in non-proximal distance learning programs?

Section III. Student Attributes

16. Age:

- ☐ Under 18
- ☐ 18-21
- ☐ 22-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-59
- ☐ Over 59

17. Sex:

- ☐ Male
- ☐ Female

18. Race/Ethnicity:

- ☐ African-American/Black
- ☐ American Indian/Alaskan Native
- ☐ Asian American/Pacific Islander
- ☐ Hispanic/Latino
- ☐ White/Caucasian
- ☐ Other (add text box here)

19. Indicate your high school grade point average.

- ☐ 3.0-4.0
- ☐ 2.0-3.0
- ☐ 1.0-2.0
- ☐ Below 1.0
- ☐ Unknown

20. Indicate your prior current grade point average.

- ☐ 3.0-4.0
- ☐ 2.0-3.0
- ☐ 1.0-2.0
- ☐ Below 1.0
- ☐ Unknown

21. Primary Enrollment Status:

- ☐ Full-Time (min. 12 credit hrs)
- ☐ Part-Time (1 - 11 credit hrs)

22. Residence Classification:

- ☐ In-state student
- ☐ Out-of-state student
- ☐ International student (Not U.S. Citizen)

23. Major:

- ☐ Free form text box or drop down based on info available from VCCS

24. Are you a first generation student?

Note: a first generation student is defined as being the first person in your immediate family to attend a postsecondary institution (Pascarella, Pierson, Wolniak, & Terenzini, 2004)

- ☐ Yes
- ☐ No

25. Which of the following BEST describes how often you use the Internet or the World Wide Web? (Mark only ONE.)

- ☐ Never
- ☐ Several times per year
- ☐ Once a month
- ☐ Once a week
- ☐ Several times per week
- ☐ Daily

26. Based on your first semester within the academic program, rate your technology experience with each of the categories listed:

	Confident	Somewhat Confident	Not Confident
Using the Keyboard and Mouse	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Working with files (i.e., creating, saving, and printing)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessing the Internet	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Navigating the Internet and using search engines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Resolving common error messages while surfing the Web (i.e., such as 'connection timed-out' and 'page-not found').	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sending and receiving email	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic computer maintenance (i.e., installing software, changing printer ink cartridges, etc...)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Basic troubleshooting skills (i.e., rebooting computer, resolving printer problems, etc...)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using word processing, spreadsheet or presentation software	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Accessing Web-based course materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using a Web camera	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Using video conferencing equipment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix E

Use of Survey Questions – Permission Letters



May 21, 2009

Laurie Hillstock
Clemson University

Ms. Hillstock:

In response to your request to use items from three of ACT's ESS survey instruments, ACT grants permission for you to use the following items in the instrument you are constructing for your dissertation research.

Entering Student Survey

Section I; Items G, M, and N
Section II; Item B; Sub-Items 1, 3, 4, 5, 6, 7, 9, 10, and 11

Student Opinion Survey

Section I; Item H
Section II; Item A; Sub-Items 3, 4, 5, 8, 9, 10, and 11

Survey of Academic Advising

Section II; Item A; Sub-Items 2, 3, and 4

Please do not hesitate to contact me if I can provide any other service related to the use of our instruments. I wish you a pleasant research experience.

Sincerely,

Randy R. McClanahan
Senior Research Associate
Survey Research Services
Phone: 319-337-1440
E-mail: randy.mcclanahan@act.org

From: "Pascarella, Ernest T" <ernest-pascarella@uiowa.edu>
Subject: RE: Permission to Use Survey Questions
Date: Tue, March 10, 2009 7:56 pm
To: "lhillst@clemson.edu" <lhillst@CLEMSON.EDU>

Laurie: Please consider this e-mail as my permission to use the 3 questions in your dissertation. Best of luck with you research.
Cordially, Ernie Pascarella

-----Original Message-----

From: lhillst@clemson.edu [<mailto:lhillst@clemson.edu>]
Sent: Tuesday, March 10, 2009 4:26 PM
To: Pascarella, Ernest T
Subject: Permission to Use Survey Questions

Hi there,

My name is Laurie Hillstock and I am a doctoral candidate at Clemson University. I am in the process of completing my dissertation research currently titled "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." I am conducting this research under the direction of principle investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University.

As a part of my research, I have designed an online survey that consists of 26 questions. I would like to ask permission to use 3 questions from your previous work with Chapman:

Pascarella, E. T., & Chapman, D. W. (1983). A multiinstitutional, path analytic validation of tinto's model of college withdrawal. American Educational Research Journal, 20(1), 87-102.

I have attached those questions as a point of reference for you (see attached). If you agree, please forward to me a letter of permission. You may fax to my attention at 864.596.9160.

Please let me know if I need to provide you with any additional information. Thank you!

Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642
864.850.2703
lhillst@clemson.edu

From: "lynne schrum" <lschrum@gmu.edu>
Subject: Re: Permission to Use Survey Questions
Date: Thu, March 26, 2009 12:56 pm
To: lhillst@CLEMSON.EDU

Hi Laurie,

I am absolutely fine with you using those two questions for your dissertation. I am actually working on some research and writing in terms of what educational leaders need to know about technology to really lead a 21st century school so am interested in what you find.

Lynne

lhillst@clemson.edu wrote:

Hi there,

My name is Laurie Hillstock and I am a doctoral candidate at Clemson University. I am in the process of completing my dissertation research currently entitled "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." I am conducting this research under the direction of principle investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University.

As a part of my research, I have designed an online survey that consists of 26 questions. I would like to ask permission to use 2 questions from your SORT tool. I have attached those questions as a point of reference for you (see attached).

If you agree, please forward to me a letter or email authorizing my use of these two questions. You may fax a letter to my attention at 864.596.9160.

Please let me know if I need to provide you with any additional information. Thank you!

Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642
864.850.2703
lhillst@clemson.edu

From: "Catherine L. Finnegan" <Catherine.Finnegan@usg.edu>
Subject: RE: Permission to Use Survey Questions
Date: Thu, March 26, 2009 11:46 am
To: "lhillst@clemson.edu" <lhillst@CLEMSON.EDU>
Cc: "Mike Rogers" <Mike.Rogers@usg.edu>

Hi Laurie,
You have permission to use the two questions. Please make sure that you include SORT in your bibliographic references.

Good Luck!

Cat Finnegan
catherine.finnegan@usg.edu
706-583-2211

-----Original Message-----

From: lhillst@clemson.edu [<mailto:lhillst@clemson.edu>]
Sent: Thursday, March 26, 2009 10:11 AM
To: Catherine L. Finnegan
Subject: Permission to Use Survey Questions
Importance: High

Hi there,

My name is Laurie Hillstock and I am a doctoral candidate at Clemson University. I am in the process of completing my dissertation research currently entitled "Pre- and Post-Admission Factors Impacting the Retention of First-Year Students Enrolled in Non-Proximal Distance Learning Programs within Public, 2-Year Colleges." I am conducting this research under the direction of principle investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University.

As a part of my research, I have designed an online survey that consists of 26 questions. I would like to ask permission to use 2 questions from your SORT tool. I have attached those questions as a point of reference for you (see attached).

If you agree, please forward to me a letter of permission. You may fax to my attention at 864.596.9160.

Please let me know if I need to provide you with any additional information. Thank you!

Laurie G. Hillstock
Doctoral Candidate
Educational Leadership (HE)
Clemson University
109 Spirit Mountain Lane
Easley, SC 29642
864.850.2703
lhillst@clemson.edu

Appendix F

Use of Theory – Permission Letter

From: "permissions (US)" <permissions@sagepub.com>
Subject: RE: Hillstock: Permission to reuse content
Date: Fri, June 5, 2009 1:12 pm
To: lhillst@CLEMSON.EDU

Dear Ms. Hillstock,

Thank you for your requests. Please consider this written permission to use the material detailed below in your dissertation. Proper attribution to the original source should be included. This permission does not include any 3rd party material found within the work.

Best,
Adele

To whom it may concern:

My name is Laurie Hillstock and I am a doctoral candidate at Clemson University. I am in the process of completing my dissertation currently entitled "exploring pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within public, two-year colleges." I am conducting this research under the direction of principal investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University.

As a part of my research, I would like to ask permission to use material from one of the articles published in your journal. More specifically, an article entitled A conceptual model of nontraditional undergraduate student attrition was written by John P. Bean & Barbara S. Metzner in 1985. It was published in the Review of Educational Research, 55(4),485-540.

I would like to obtain permission to use the Non traditional Student Attrition (chart). It is my desire to include this figure as a part of the theoretical components within my dissertation. Please let me know if you will allow me to use this diagram.

Thank you,

Laurie G. Hillstock
lhillst@clemson.edu * 864.850.2703

-----Original Message-----

From: lhillst@clemson.edu [<mailto:lhillst@clemson.edu>]
Sent: Thursday, June 04, 2009 6:23 PM
To: permissions (US)
Subject: Hillstock: Permission to reuse content

To whom it may concern:

My name is Laurie Hillstock and I am a doctoral candidate at Clemson University. I am in the process of completing my dissertation currently entitled "exploring pre- and post-admission characteristics of retained first-year students enrolled in non-proximal distance learning programs within public, two-year colleges." I am conducting this research under the direction of principal investigator, Dr. Pamela A. Havice, Associate Professor of Leadership, Counselor Ed., and Human & Org. of Clemson University.

As a part of my research, I would like to ask permission to use material from one of the articles published in your journal. More specifically, an article entitled Dropout from higher education: A theoretical synthesis of recent research was written by V. Tinto in 1975. It was published in the Review of Education Research, 45(1), 89-125.

I would like to obtain permission to use the Student Integration Model (chart) found on page 96. It is my desire to include this figure as a part of the theoretical components within my dissertation. Please let me know if you will allow me to use this diagram.

Thank you,

Laurie G. Hillstock
lhillst@clemson.edu * 864.850.2703

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